

FCC Radio Test Report

FCC ID: KA2DIR2150A1

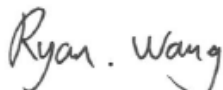
This report concerns: Original Grant

Project No. : 2004H020
Equipment : 1) AC2100 Mesh Wi-Fi Gigabit Router
2) AC2100 Wi-Fi Gigabit Router
Brand Name : D-Link
Test Model : DIR-2150
Series Model : N/A
Applicant : D-Link Corporation
Address : 17595 Mt. Herrmann, Fountain Valley, California United State 92708
Manufacturer : D-Link Corporation
Address : 17595 Mt. Herrmann, Fountain Valley, California United State 92708
Factory : N/A
Address : N/A
Date of Receipt : Apr. 17, 2020
Date of Test : May 01, 2020 ~ Jun. 15, 2020
Issued Date : Jul. 07, 2020
Report Version : R00
Test Sample : Engineering Sample No.: SH2020041790
Standard(s) : FCC Part15, Subpart E(15.407)
ANSI C63.10-2013
FCC KDB 789033 D02 General UNII Test Procedures New Rules
v02r01
FCC KDB 662911 D01 Multiple Transmitter Output v02r01

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.



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Declaration

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BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Jul. 07, 2020

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart E(15.407)				
Standard(s) Section	Test Item	Test Result	Judgement	Remark
15.207 15.407(b)	AC Power Line Conducted Emissions	APPENDIX A	PASS	-----
15.407(b) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS	-----
15.407(a) 15.407(e)	Spectrum Bandwidth	APPENDIX E	PASS	-----
15.407(a)	Maximum Output Power	APPENDIX F	PASS	-----
15.407(a)	Power Spectral Density	APPENDIX G	PASS	-----
15.203	Antenna Requirements	-----	PASS	NOTE (3)
15.407(c)	Automatically Discontinue Transmission	-----	PASS	NOTE (3)

Note:

- (1) "N/A" denotes test is not applicable in this test report.
- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.
- (3) During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. the EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.
- (4) For UNII-1 this device was functioned as a
☒ Access point device ☐ Client device

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China
 BTL's Test Firm Registration Number for FCC: 476765
 BTL's Designation Number for FCC: CN1241

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$))
 The BTL measurement uncertainty as below table:

A. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
SH-CB01	CISPR	9 KHz~30 MHz	V	3.79
		9 KHz~30 MHz	H	3.57
		30 MHz~200 MHz	V	4.04
		30 MHz~200 MHz	H	3.76
		200 MHz~1,000 MHz	V	4.24
		200 MHz~1,000 MHz	H	3.84
		1 GHz~18 GHz	V	4.46
		1 GHz~18 GHz	H	4.40
		18 GHz~40 GHz	V	3.95
		18 GHz~40 GHz	H	3.95

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	20°C	54%	AC 120V/60Hz	Forest Li
Radiated Emissions-9K-30MHz	23.6°C	64%	AC 120V/60Hz	Forest Li
Radiated Emissions-30 MHz to 1GHz	23.6°C	64%	AC 120V/60Hz	Forest Li
Radiated Emissions-Above 1000 MHz	23.6°C	64%	AC 120V/60Hz	Forest Li
Spectrum Bandwidth	26°C	54%	AC 120V/60Hz	Forest Li
Maximum Output Power	26°C	54%	AC 120V/60Hz	Forest Li
Power Spectral Density	26°C	54%	AC 120V/60Hz	Forest Li

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	1) AC2100 Mesh Wi-Fi Gigabit Router 2) AC2100 Wi-Fi Gigabit Router
Brand Name	D-Link
Test Model	DIR-2150
Series Model	N/A
Model Difference(s)	N/A
Software Version	1
Hardware Version	A1
Power Source	DC voltage supplied from AC/DC adapter. Adapter Model: S12A12-120A100-CJ
Power Rating	I/P:AC 100-240V ~50/60Hz max 0.5A O/P:12V 5.0A
Operation Frequency	UNII-1: 5150 MHz~5250 MHz UNII-3: 5725 MHz~5850 MHz
Modulation Type	OFDM
Bit Rate of Transmitter	Up to 1733.2Mbps

Maximum Conducted Output Power for UNII-1 (1TX) CDD	IEEE 802.11a: 22.35 dBm (0.1718 W)
Maximum Conducted Output Power for UNII-3 (1TX) CDD	IEEE 802.11a: 22.46 dBm (0.1762 W)

Maximum Conducted Output Power for UNII-1 (4TX) CDD	IEEE 802.11n (HT20): 24.26 dBm (0.2667 W) IEEE 802.11n (HT40): 24.17 dBm (0.2612 W) IEEE 802.11ac (VHT20): 24.78 dBm (0.3006 W) IEEE 802.11ac (VHT40): 24.25 dBm (0.2661 W) IEEE 802.11ac (VHT80): 24.30 dBm (0.2692 W)
Maximum Conducted Output Power for UNII-3 (4TX) CDD	IEEE 802.11n (HT20): 27.55 dBm (0.5689 W) IEEE 802.11n (HT40): 27.44 dBm (0.5546 W) IEEE 802.11ac (VHT20): 28.53 dBm (0.7129 W) IEEE 802.11ac (VHT40): 26.75 dBm (0.4732 W) IEEE 802.11ac (VHT80): 18.94 dBm (0.0783 W) IEEE 802.11ac (VHT80+80): 20.75 dBm (0.1189 W)
Maximum Conducted Output Power for UNII-1 (4TX) Beamforming	IEEE 802.11n (HT20): 23.94 dBm (0.2477 W) IEEE 802.11n (HT40): 23.88 dBm (0.2443 W) IEEE 802.11ac (VHT20): 24.66 dBm (0.2924 W) IEEE 802.11ac (VHT40): 23.95 dBm (0.2483 W) IEEE 802.11ac (VHT80): 24.12 dBm (0.2582 W)
Maximum Conducted Output Power for UNII-3 (4TX) Beamforming	IEEE 802.11n (HT20): 24.48 dBm (0.2805 W) IEEE 802.11n (HT40): 24.40 dBm (0.2754 W) IEEE 802.11ac (VHT20): 24.41 dBm (0.2761 W) IEEE 802.11ac (VHT40): 24.30 dBm (0.2692 W) IEEE 802.11ac (VHT80): 18.63 dBm (0.0729 W) IEEE 802.11ac (VHT80+80): 20.66 dBm (0.1164 W)

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11ac (VHT20)		IEEE 802.11n (HT40) IEEE 802.11ac (VHT40)		IEEE 802.11ac (VHT80)	
UNII-1		UNII-1		UNII-1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11ac (VHT20)		IEEE 802.11n (HT40) IEEE 802.11ac (VHT40)		IEEE 802.11ac (VHT80)	
UNII-3		UNII-3		UNII-3	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

IEEE 802.11ac (VHT80+80)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	155	5775

For 1T1R

3. Antenna Specification:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	Dipole	N/A	5	N/A

For 4T4R

3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	Dipole	N/A	5	N/A
2	N/A	N/A	Dipole	N/A	5	N/A
3	N/A	N/A	Dipole	N/A	5	N/A
4	N/A	N/A	Dipole	N/A	5	N/A

Note:

(1) Beamforming:

All antennas have the same gain, Directional gain = $G_{ANT} + 10 \log(N_{ANT})$ dBi,

that is Directional gain = $5 + 10 \log(4)$ dBi = 11.02;

So output power limit is $30 - 11.02 + 6 = 24.98$, the UNII-1 power density limit is

$17 - (11.02 - 6) = 11.98$. the UNII-3 power density limit is $30 - 11.02 + 6 = 24.98$.

(2) CDD:

All antennas have the same gain, Directional gain = $G_{ANT} + \text{Array Gain}$,

For power spectral density measurements, $N_{ANT} = 4$, $N_{SS} = 1$. So Directional gain = $G_{ANT} +$

Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB = $5 + 10 \log(4/1)$ dBi = 11.02. Then, the UNII-1 power density

limit is $17 - (11.02 - 6) = 11.98$. the UNII-3 power density limit is $30 - 11.02 + 6 = 24.98$

For power measurements, Array Gain = 0 dB ($N_{ANT} \leq 4$), so the Directional gain = 5.

4. Table for Antenna Configuration:

Operating Mode TX Mode	Ant. 1	Ant. 2	Ant. 3	Ant. 4	Ant. 1+2+3+4
IEEE 802.11a	✓	✓	✓	✓	✗
IEEE 802.11n (HT20)	✓	✓	✓	✓	✓
IEEE 802.11n (HT40)	✓	✓	✓	✓	✓
IEEE 802.11ac (VHT20)	✓	✓	✓	✓	✓
IEEE 802.11ac (VHT40)	✓	✓	✓	✓	✓
IEEE 802.11ac (VHT80)	✓	✓	✓	✓	✓
Operating Mode TX Mode	Ant. 1+ Ant. 3		Ant. 2+Ant. 4		Ant. 1+2+3+4
IEEE 802.11ac (VHT80+80)	✓		✓		✓

2.2 TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N (HT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX N (HT40) Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC (VHT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 5	TX AC (VHT40) Mode / CH38, CH46 (UNII-1)
Mode 6	TX AC (VHT80) Mode / CH42 (UNII-1)
Mode 7	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 8	TX N (HT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 9	TX N (HT40) Mode / CH151,CH159 (UNII-3)
Mode 10	TX AC (VHT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 11	TX AC (VHT40) Mode / CH151,CH159 (UNII-3)
Mode 12	TX AC (VHT80) Mode / CH155 (UNII-3)
Mode 13	TX AC (VHT80+80) Mode / CH42(UNII-1)+CH155 (UNII-3)
Mode 14	TX N(HT20) Mode / CH165 (UNII-3)

Following mode(s) as (were) found to be the worst case(s) and selected for the final test.

AC power line conducted emissions test	
Final Test Mode	Description
Mode 14	TX N(HT20) Mode / CH165 (UNII-3)

Radiated emissions test	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N (HT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX N (HT40) Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC (VHT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 5	TX AC (VHT40) Mode / CH38, CH46 (UNII-1)
Mode 6	TX AC (VHT80) Mode / CH42 (UNII-1)
Mode 7	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 8	TX N (HT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 9	TX N (HT40) Mode / CH151,CH159 (UNII-3)
Mode 10	TX AC (VHT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 11	TX AC (VHT40) Mode / CH151,CH159 (UNII-3)
Mode 12	TX AC (VHT80) Mode / CH155 (UNII-3)

Conducted test	
Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N (HT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX N (HT40) Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC (VHT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 5	TX AC (VHT40) Mode / CH38, CH46 (UNII-1)
Mode 6	TX AC (VHT80) Mode / CH42 (UNII-1)
Mode 7	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 8	TX N (HT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 9	TX N (HT40) Mode / CH151,CH159 (UNII-3)
Mode 10	TX AC (VHT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 11	TX AC (VHT40) Mode / CH151,CH159 (UNII-3)
Mode 12	TX AC (VHT80) Mode / CH155 (UNII-3)

Note:

- (1) For radiated emission below 1 GHz test, the IEEE 802.11n20 is found to be the worst case and recorded.

2.3 PARAMETERS OF TEST SOFTWARE

CDD

UNII-1 - 1TX			
Test Software	QA		
Test Frequency (MHz)	5180	5200	5240
IEEE 802.11a	1B	2A	2A

UNII-3 - 1TX			
Test Software	QA		
Test Frequency (MHz)	5745	5785	5825
IEEE 802.11a	2A	28	27

UNII-1 - 4TX			
Test Software	QA		
Test Frequency (MHz)	5180	5200	5240
IEEE 802.11n (HT20)	17	1A	20
Test Frequency (MHz)	5190	5230	
IEEE 802.11n (HT40)	20	20	

UNII-3 - 4TX			
Test Software	QA		
Test Frequency (MHz)	5745	5785	5825
IEEE 802.11n (HT20)	2A	2A	2A
Test Frequency (MHz)	5755	5795	
IEEE 802.11n (HT40)	2A	2A	

UNII-1 - 4TX			
Test Software	QA		
Test Frequency (MHz)	5180	5200	5240
IEEE 802.11ac (VHT20)	17	1D	1D
Test Frequency (MHz)	5190	5230	
IEEE 802.11ac (VHT40)	20	20	
Test Frequency (MHz)	5210		
IEEE 802.11ac (VHT80)	24		

UNII-3 - 4TX			
Test Software	QA		
Test Frequency (MHz)	5745	5785	5825
IEEE 802.11ac (VHT20)	2A	2A	2A
Test Frequency (MHz)	5755	5795	
IEEE 802.11ac (VHT40)	2A	2A	
Test Frequency (MHz)	5775		
IEEE 802.11ac (VHT80)	14		

Test Software	accessMTool.exe
Frequency (MHz)	5210+5775
IEEE 802.11ac (VHT80+80)	20

Beamforming

UNII-1 - 4TX			
Test Software	QA		
Test Frequency (MHz)	5180	5200	5240
IEEE 802.11n (HT20)	17	1A	20
Test Frequency (MHz)	5190	5230	
IEEE 802.11n (HT40)	20	20	

UNII-3 - 4TX			
Test Software	QA		
Test Frequency (MHz)	5745	5785	5825
IEEE 802.11n (HT20)	20	20	20
Test Frequency (MHz)	5755	5795	
IEEE 802.11n (HT40)	1F	20	

UNII-1 - 4TX			
Test Software	QA		
Test Frequency (MHz)	5180	5200	5240
IEEE 802.11ac (VHT20)	17	1D	1D
Test Frequency (MHz)	5190	5230	
IEEE 802.11ac (VHT40)	20	20	
Test Frequency (MHz)	5210		
IEEE 802.11ac (VHT80)	24		

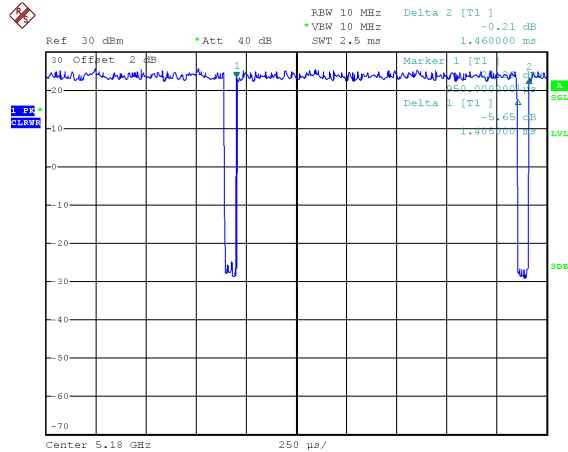
UNII-3 - 4TX			
Test Software	QA		
Test Frequency (MHz)	5745	5785	5825
IEEE 802.11ac (VHT20)	1D	1D	1D
Test Frequency (MHz)	5755	5795	
IEEE 802.11ac (VHT40)	20	20	
Test Frequency (MHz)	5775		
IEEE 802.11ac (VHT80)	14		

Test Software	accessMTool.exe
Frequency (MHz)	5210+5775
IEEE 802.11ac (VHT80+80)	20

2.4 DUTY CYCLE

If duty cycle is $\geq 98\%$, duty factor is not required.
 If duty cycle is $< 98\%$, duty factor shall be considered.
 The output power = measured power + duty factor.

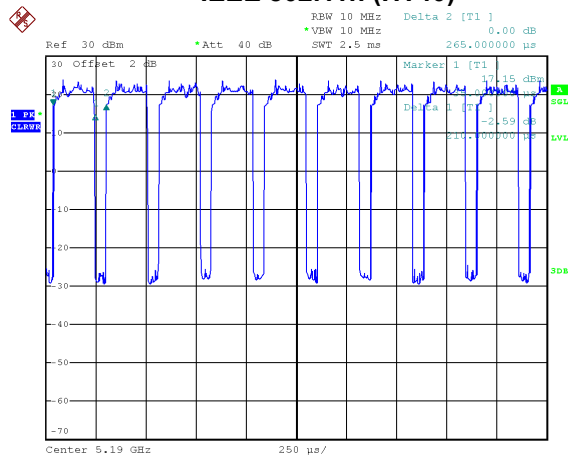
IEEE 802.11a



Date: 28.APR.2020 09:49:48

Duty cycle = $1.405 \text{ ms} / 1.460 \text{ ms} = 96.23\%$
 Duty Factor = $10 * \log(1 / \text{Duty cycle}) = 0.17 \text{ dB}$

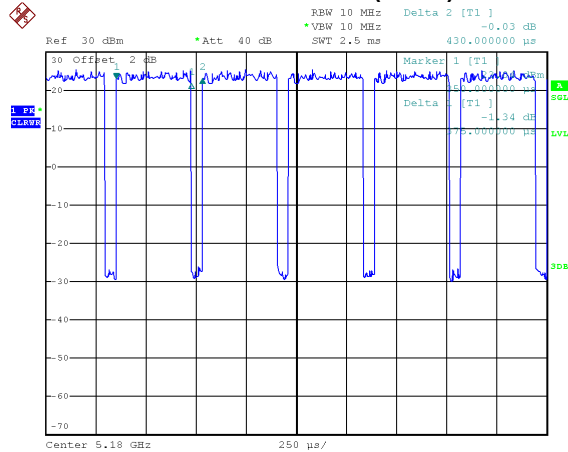
IEEE 802.11n (HT40)



Date: 28.APR.2020 09:53:04

Duty cycle = $0.210 \text{ ms} / 0.265 \text{ ms} = 79.25\%$
 Duty Factor = $10 * \log(1 / \text{Duty cycle}) = 1.01 \text{ dB}$

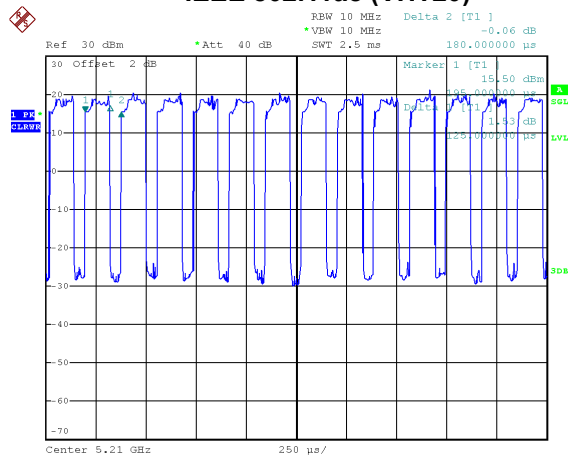
IEEE 802.11n (HT20)



Date: 28.APR.2020 09:52:18

Duty cycle = $0.375 \text{ ms} / 0.430 \text{ ms} = 87.21\%$
 Duty Factor = $10 * \log(1 / \text{Duty cycle}) = 0.59 \text{ dB}$

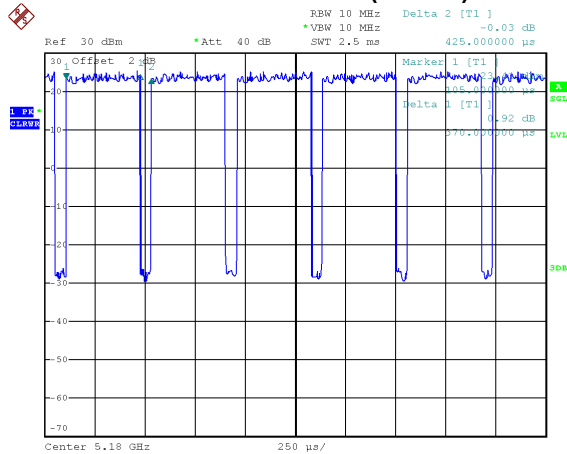
IEEE 802.11ac (VHT20)



Date: 28.APR.2020 09:54:00

Duty cycle = $0.125 \text{ ms} / 0.180 \text{ ms} = 69.44\%$
 Duty Factor = $10 * \log(1 / \text{Duty cycle}) = 1.58 \text{ dB}$

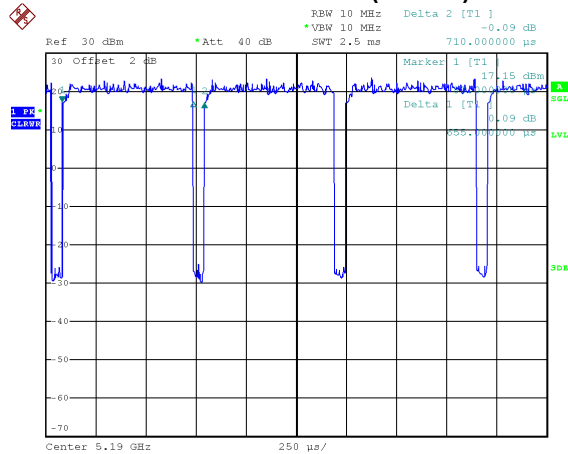
IEEE 802.11ac (VHT40)



Date: 28.APR.2020 09:50:42

Duty cycle = 0.370 ms / 0.425 ms = 87.06%
 Duty Factor = $10 \cdot \log(1 / \text{Duty cycle}) = 0.60 \text{ dB}$

IEEE 802.11ac (VHT80)



Date: 28.APR.2020 09:51:28

Duty cycle = 0.655 ms / 0.710 ms = 92.25%
 Duty Factor = $10 \cdot \log(1 / \text{Duty cycle}) = 0.35 \text{ dB}$

NOTE:

For IEEE 802.11a:

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz (Duty cycle < 98%).

For IEEE 802.11n (HT20), IEEE 802.11ac (VHT40), IEEE 802.11ac (VHT80):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 kHz (Duty cycle < 98%).

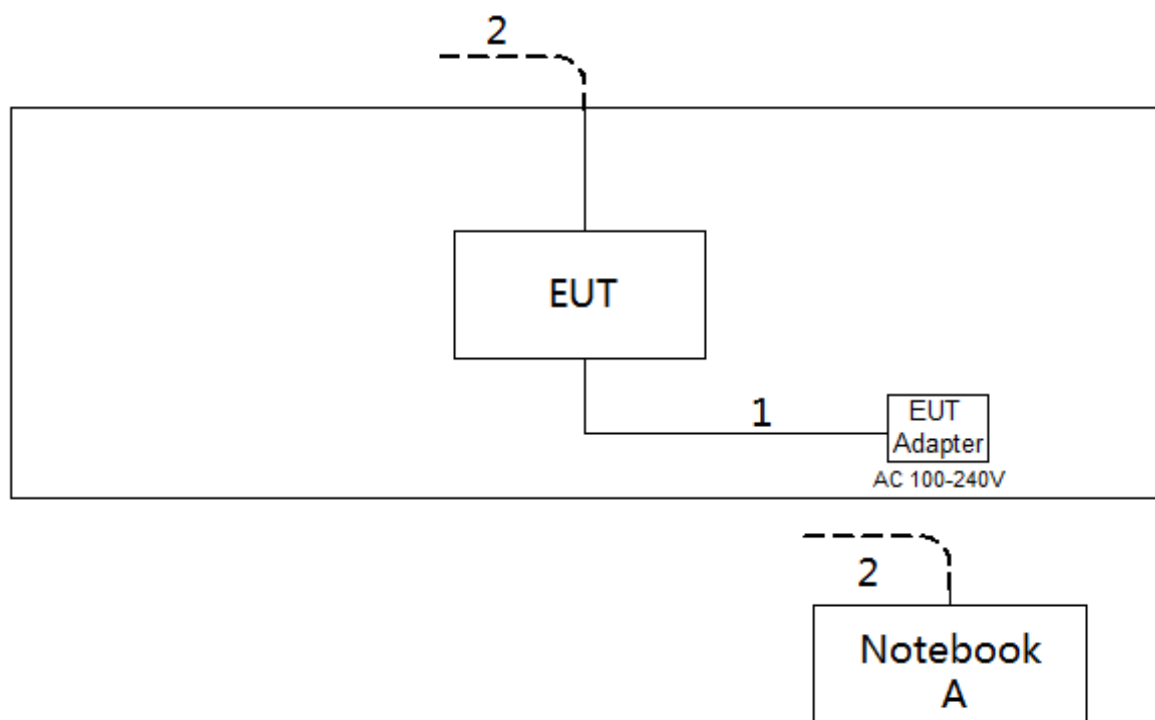
For IEEE 802.11n (HT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 5 kHz (Duty cycle < 98%).

For IEEE 802.11ac (VHT20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 8 kHz (Duty cycle < 98%).

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	Notebook	Dell	Inspiron 15-7559	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.5m
2	RJ45 Cable	NO	NO	10m

3. AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency (MHz)	Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.50 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameter	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

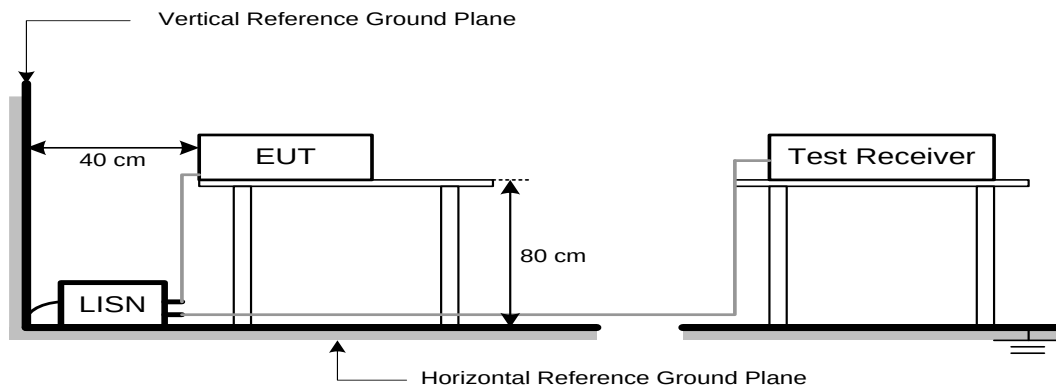
3.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.3 DEVIATION FROM TEST STANDARD

No deviation

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

The EUT was programmed to be in continuously transmitting/TX mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS TEST

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBμV/m)
5150-5250	-27	68.3
5250-5350	-27	68.3
5470-5725	-27	68.3
5725-5850	-27 NOTE (2)	68.3
	10 NOTE (2)	105.3
	15.6 NOTE (2)	110.9
	27 NOTE (2)	122.3

NOTE:

(1) The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$

(2) According to 15.407(b)(4)(i), all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

4.2 TEST PROCEDURE

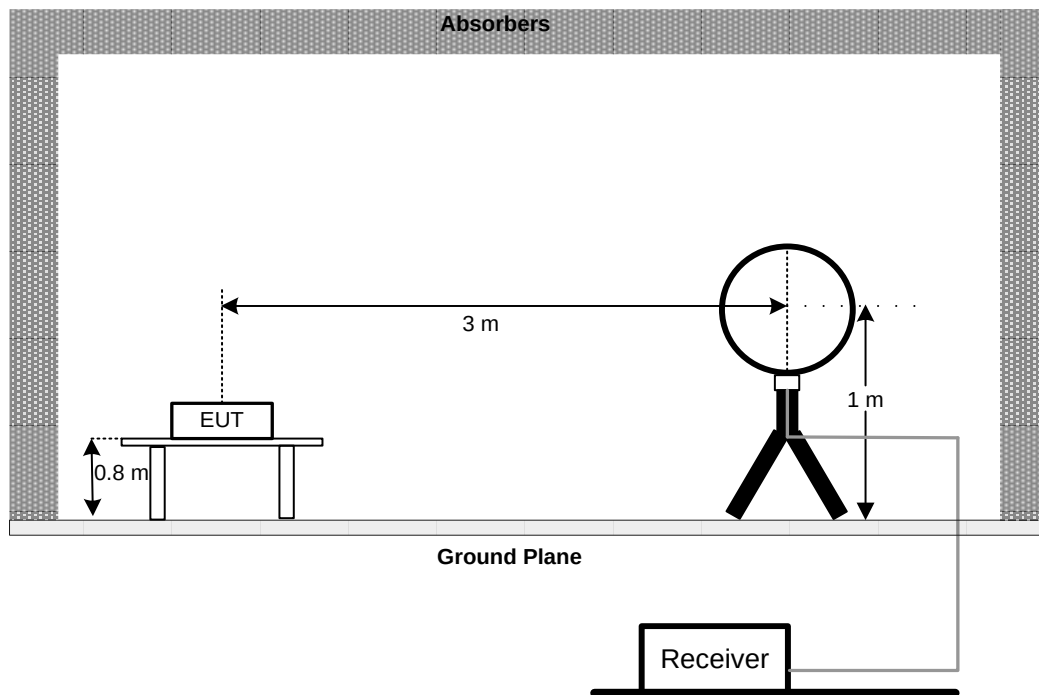
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
(below 1 GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.3 DEVIATION FROM TEST STANDARD

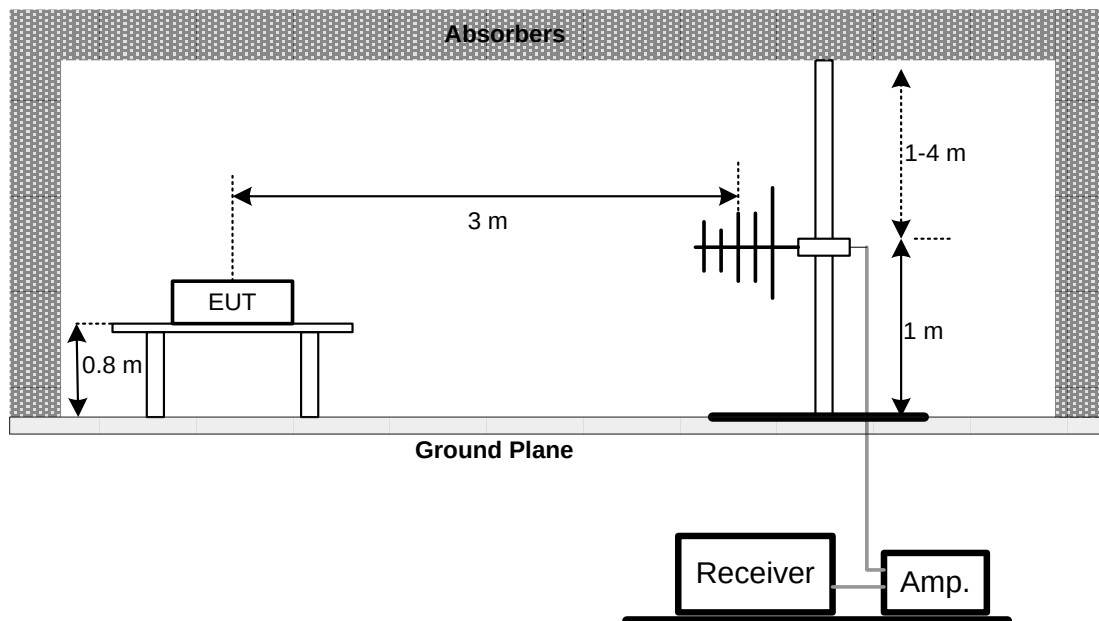
No deviation

4.4 TEST SETUP

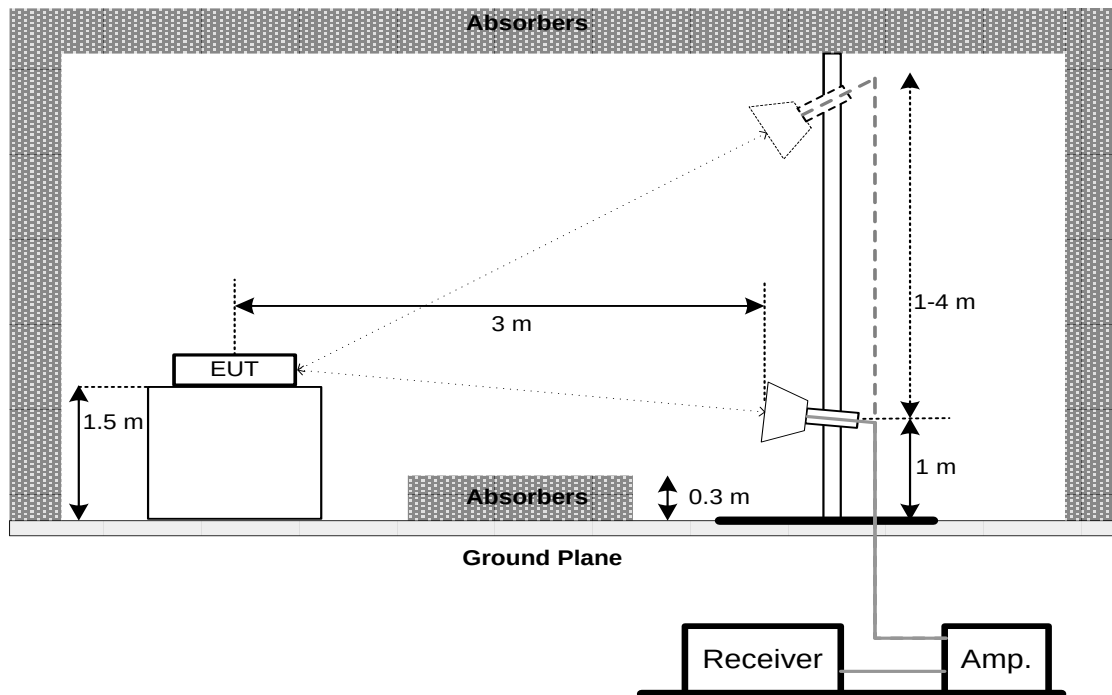
9 kHz to 30 MHz



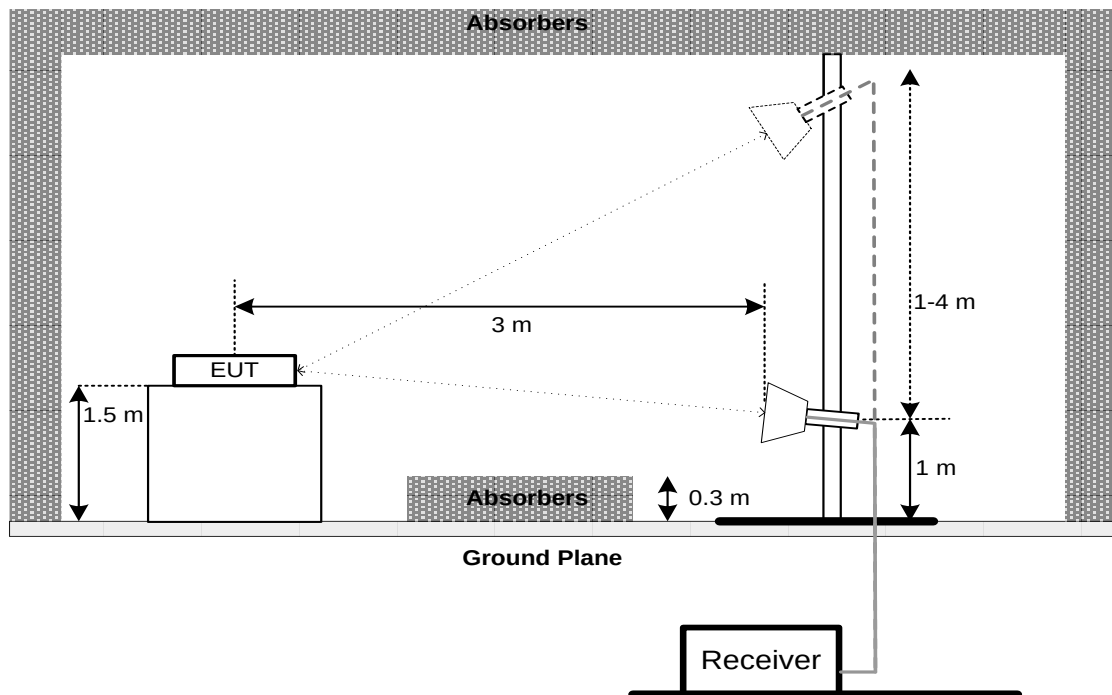
30 MHz to 1 GHz



Above 1 GHz



Above 1 GHz Band edge



4.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

4.6 TEST RESULTS - 9 KHZ to 30 MHZ

Please refer to the APPENDIX B

Remark:

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
- (2) Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB).
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.7 TEST RESULTS - 30 MHz TO 1000 MHz

Please refer to the APPENDIX C.

4.8 TEST RESULTS - ABOVE 1000 MHz

Please refer to the APPENDIX D.

Remark:

- (1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

5. BANDWIDTH TEST

5.1 LIMIT

FCC Part15, Subpart E (15.407)			
Section	Test Item	Limit	Frequency Range (MHz)
15.407(a) 15.407(e)	26 dB Bandwidth	-	5150-5250
	26 dB Bandwidth	-	5250-5350
	26 dB Bandwidth	-	5470-5725
	6 dB Bandwidth	Minimum 500 kHz	5725-5850

5.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below

b. a. Spectrum Setting:

For UNII-1, UNII-2A, UNII-2C:

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> 26 dB Bandwidth
RBW	300 kHz (Bandwidth 20 MHz) 1 MHz (Bandwidth 40 MHz and 80 MHz)
VBW	1 MHz (Bandwidth 20 MHz) 3 MHz (Bandwidth 40 MHz and 80 MHz)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For UNII-3:

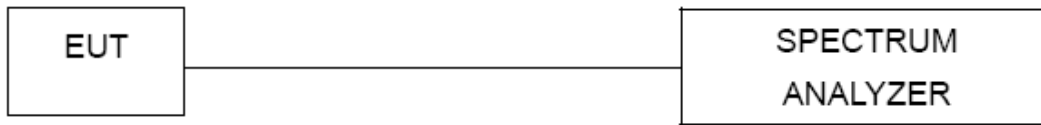
Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	6 dB Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

c. Measured the spectrum width with power higher than 26 dB below carrier

5.3 TEST PROCEDURE

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.

6. MAXIMUM OUTPUT POWER TEST

6.1 LIMIT

FCC Part15, Subpart E (15.407)			
Section	Test Item	Limit	Frequency Range (MHz)
15.407(a)	Conducted Output Power	AP device: 1 Watt (30 dBm) Client device: 250 mW (24 dBm)	5150-5250
		250 mW (24 dBm)	5250-5350
		250 mW (24 dBm)	5470-5725
		1 Watt (30dBm)	5725-5850

Note:

- a. For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. (Slave Client)
- b. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26dB Bandwidth in megahertz.

6.2 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- b. Test test was performed in accordance with method of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX F.

7. POWER SPECTRAL DENSITY TEST

7.1 LIMIT

FCC Part15, Subpart E (15.407)			
Section	Test Item	Limit	Frequency Range (MHz)
15.407(a)	Power Spectral Density	AP device: 17 dBm/MHz Client device: 11 dBm/MHz	5150-5250
		11 dBm/MHz	5250-5350
		11 dBm/MHz	5470-5725
		30 dBm/500 kHz	5725-5850

7.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	= 1 MHz.
VBW	≥ 3 MHz.
Detector	RMS
Trace average	100 trace
Sweep Time	Auto

Note:

- For UNII-3, according to KDB publication 789033 D02 General UNII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 1 MHz and VBW at 3 MHz if the spectrum analyzer does not have 500 kHz RBW.
- The value measured with RBW=1 MHz is to be added with $10\log(500 \text{ kHz}/1 \text{ MHz})$ which is -3 dB. For example, if the measured value is +10dBm using RBW=1 MHz (that is +10 dBm/MHz), then the converted value will be +7dBm/500kHz.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX G.

8. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Line Impedance Stabilisation Network	Schwarzbeck	NNLK 8121	8121-822	Mar. 21, 2021
2	TWO-LINE V-NETWORK	R&S	ENV216	101340	Sep. 01, 2020
3	Test Cable	emci	EMCRG400-BM-N M-10000	170628	Jul. 15, 2020
4	EMI Test Receiver	R&S	ESCI	100082	Mar. 28, 2021
5	50Ω Terminator	SHX	TF2-1G-A	17051602	Mar. 21, 2021
6	50Ω coaxial switch	Anritsu	MP59B	6201750902	Mar. 21, 2021
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Loop Antenna	EMCI	EMCI LPA600	275	Mar. 28, 2021
2	EMI Test Receiver	R&S	ESCI	100082	Mar. 28, 2021
3	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	719	Mar. 28, 2021
2	Pre-Amplifier	emci	EMC9135	980400	Mar. 21, 2021
3	MXE EMI Receiver	Keysight	N9038A	MY57150106	Mar. 21, 2021
4	Test Cable	emci	EMC104-SM-SM-7000	170330	Apr. 16, 2021
5	Test Cable	emci	EMC104-SM-SM-1000	170331	Apr. 16, 2021
6	Test Cable	emci	EMC104-SM-NM-3500	170621	Apr. 16, 2021
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double-Ridged Waveguide Horn Antenna	ETS-Lindgren	9120D	00206960	Mar. 28, 2021
2	Pre-Amplifier	emci	EMC012645SE	980421	Mar. 28, 2021
3	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Mar. 21, 2021
4	Test Cable	emci	EMC104-SM-SM-7000	170330	Apr. 16, 2021
5	Test Cable	emci	EMC104-SM-SM-1000	170331	Apr. 16, 2021
6	Test Cable	emci	EMC104-SM-NM-3500	170621	Apr. 16, 2021
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	MXE EMI Receiver	Keysight	N9038A	MY57150106	Mar. 28, 2021
9	Antenna	Schwarzbeck	BBHA9170	9170-651	Apr. 02, 2021
10	Pre-Amplifier	EMC INSTRUMENT	EMC184045B	980265	Mar. 21, 2021
11	EXA Spectrum Analyzer	Keysight	N9010A	MY56480579	Mar. 21, 2021
12	Test Cable	emci	EMC102-SM-SM-800	170335	Apr. 13, 2021
13	Test Cable	emci	EMC102-KM-KM-2500	170627	Apr. 13, 2021

Bandwidth					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100626	Mar. 21, 2021

Maximum Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Peak Power Analyze	Keysight	8990B	MY51000507	Mar. 21, 2021
2	Wideband Power Sensor	Keysight	N9123A	MY58310003	Mar. 21, 2021

Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100626	Mar. 21, 2021

Remark: "N/A" denotes no model name, serial no. or calibration specified.

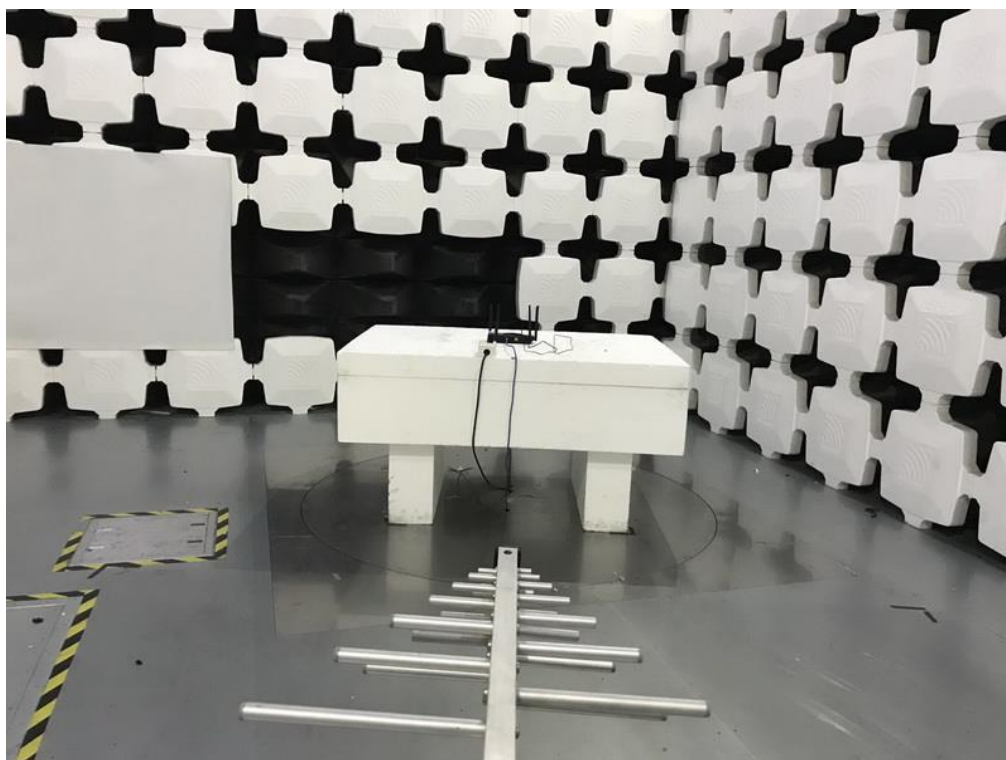
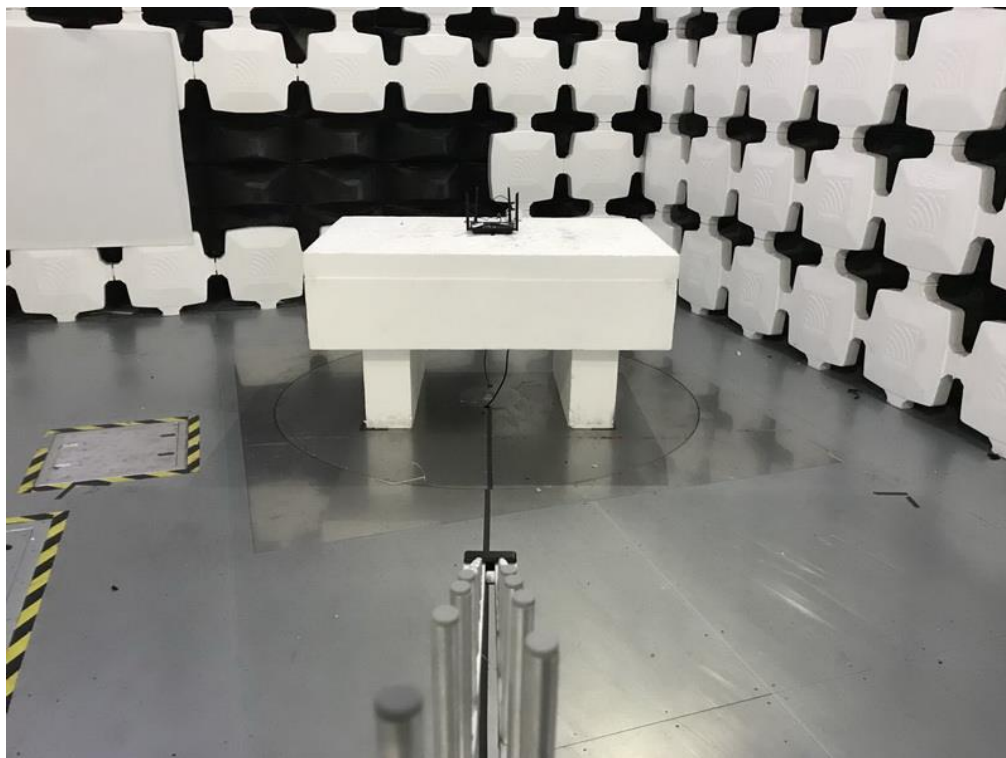
All calibration period of equipment list is one year.

Conducted Emissions Test Photos



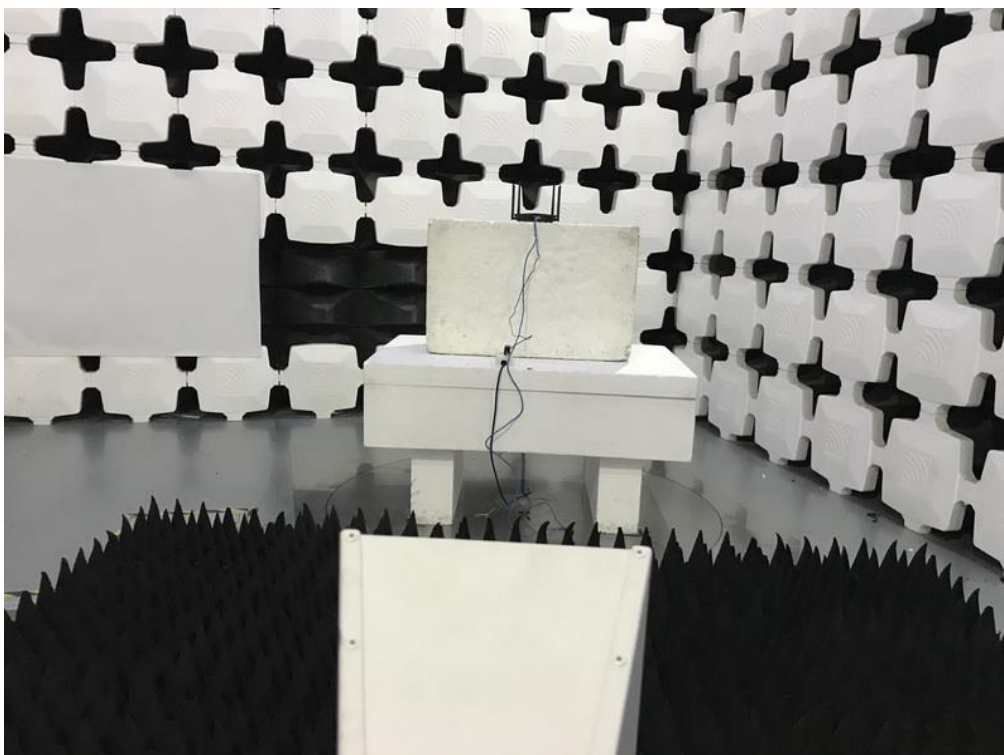
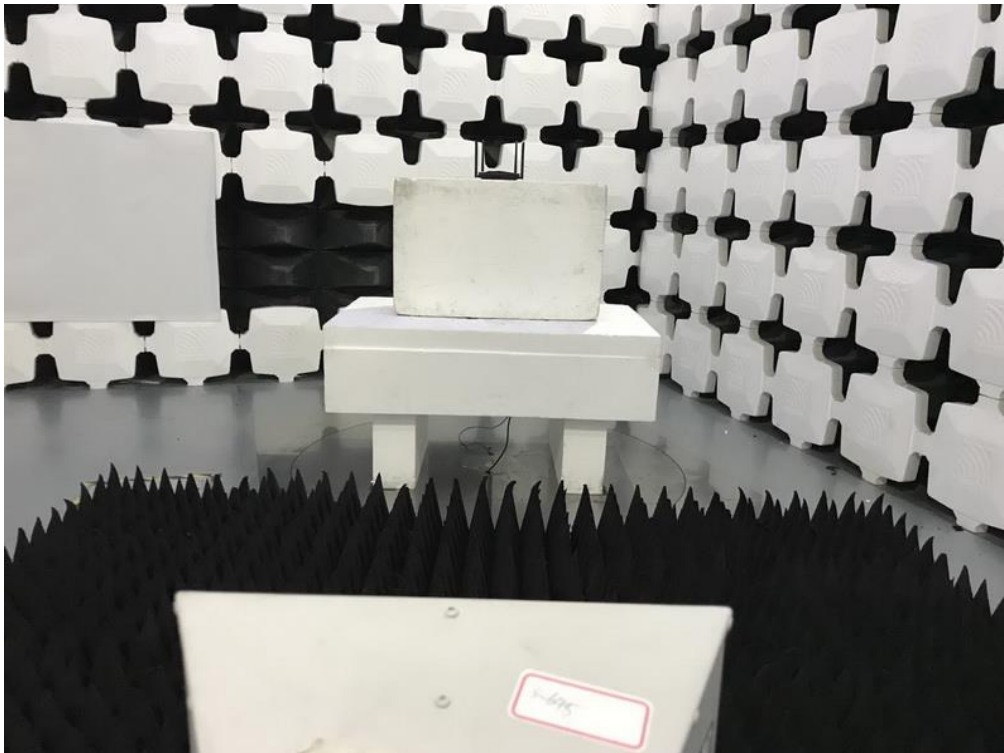
Radiated Emissions Test Photos

30 MHz to 1 GHz



Radiated Emissions Test Photos

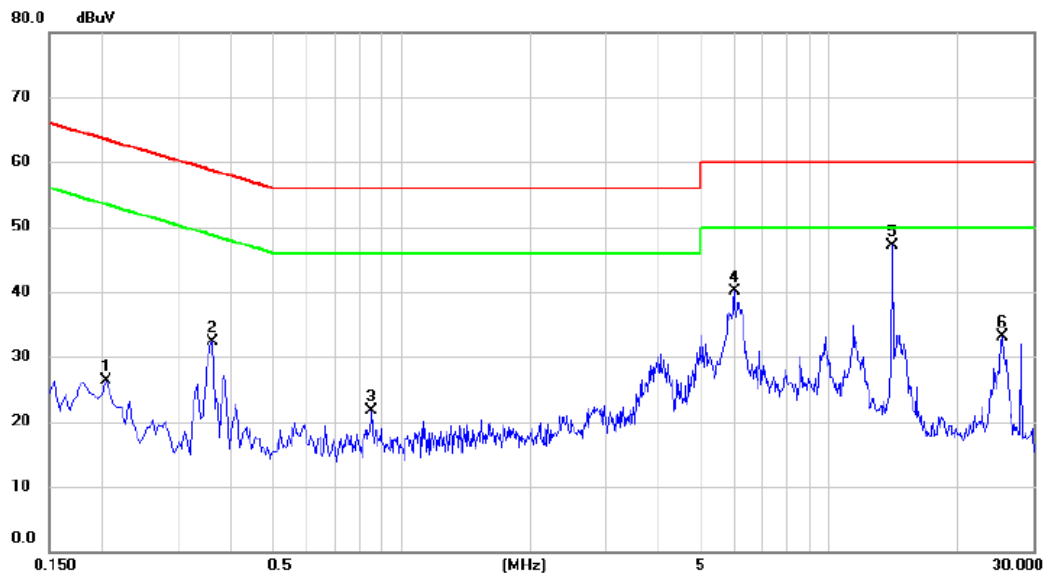
Above 1 GHz



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode: TX N20 MODE CHANNEL 165

Line



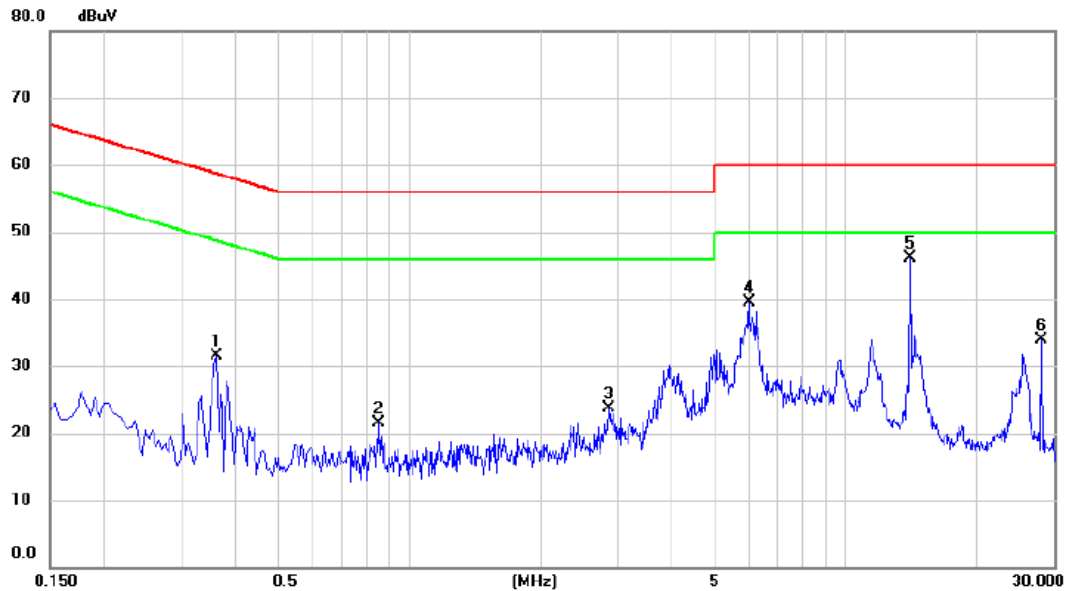
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.2040	16.45	9.78	26.23	63.45	-37.22	peak	
2		0.3615	22.55	9.85	32.40	58.69	-26.29	peak	
3		0.8520	11.98	9.79	21.77	56.00	-34.23	peak	
4		6.0225	30.12	10.02	40.14	60.00	-19.86	peak	
5	*	14.0010	36.92	10.19	47.11	60.00	-12.89	peak	
6		25.4895	22.42	10.65	33.07	60.00	-26.93	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N20 MODE CHANNEL 165

Neutral



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.3615	21.86	9.67	31.53	58.69	-27.16	peak	
2	0.8520	11.86	9.72	21.58	56.00	-34.42	peak	
3	2.8590	13.96	9.84	23.80	56.00	-32.20	peak	
4	6.0135	29.57	10.01	39.58	60.00	-20.42	peak	
5 *	14.0010	35.99	10.15	46.14	60.00	-13.86	peak	
6	28.0005	23.26	10.63	33.89	60.00	-26.11	peak	

REMARKS:

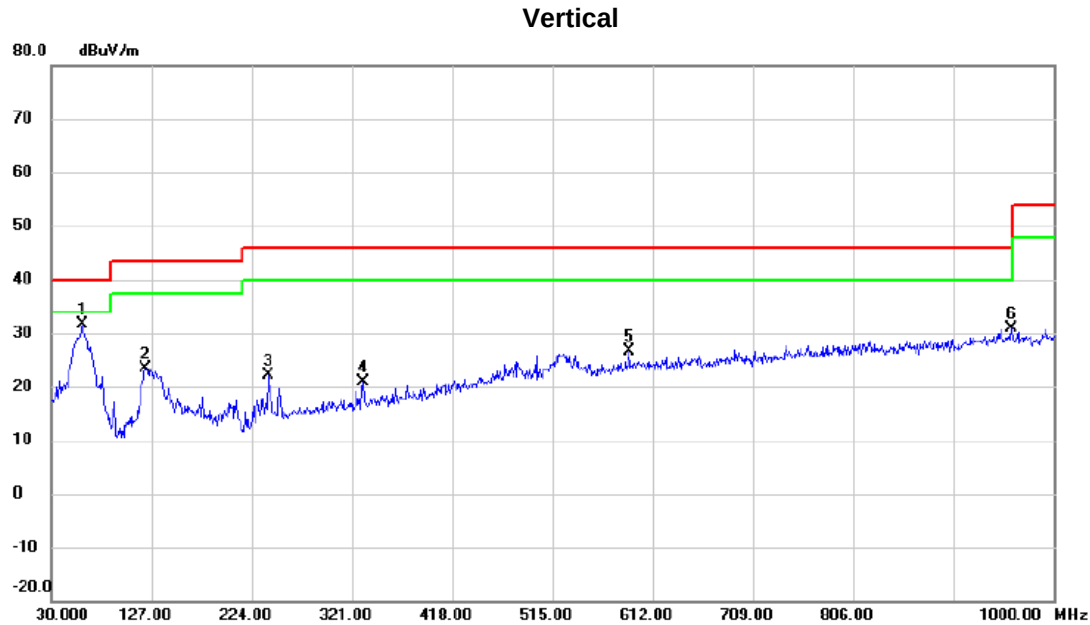
- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

Note: Below 30MHz, The measured value have enough margin over 20dB than the limit,
therefore they are not reported

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1 GHZ

Test Mode: TX N20 MODE CHANNEL 165



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	60.5550	48.60	-16.91	31.69	40.00	-8.31	peak	
2		121.6650	41.44	-18.04	23.40	43.50	-20.10	peak	
3		240.4900	39.23	-17.02	22.21	46.00	-23.79	peak	
4		331.6700	35.03	-14.04	20.99	46.00	-25.01	peak	
5		588.7200	35.05	-8.44	26.61	46.00	-19.39	peak	
6		959.7450	34.36	-3.45	30.91	46.00	-15.09	peak	

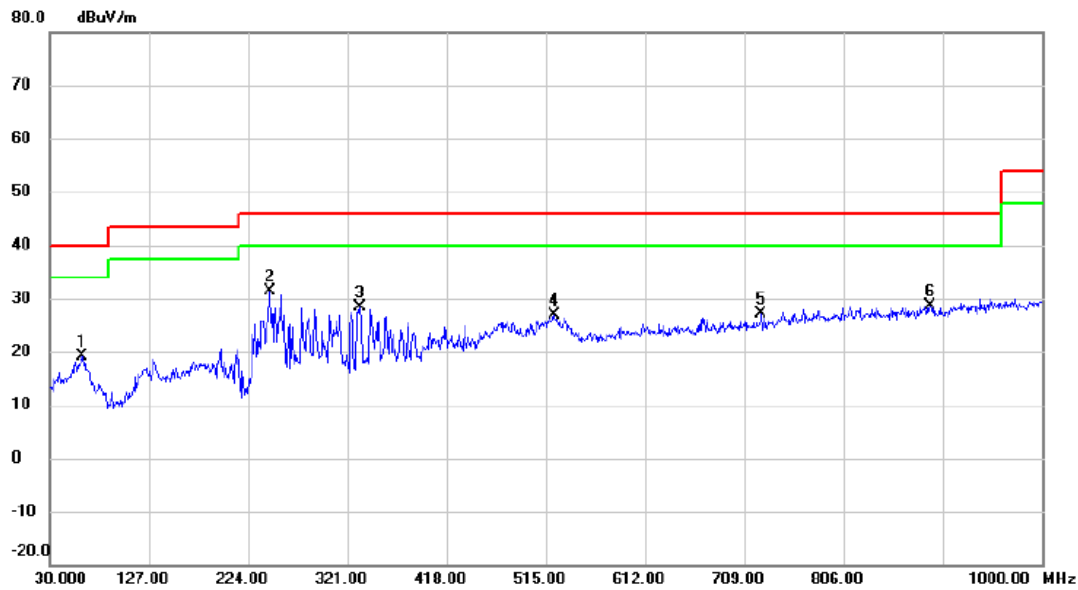
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX N20 MODE CHANNEL 165

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		62.0100	36.27	-17.07	19.20	40.00	-20.80	peak	
2	*	245.3400	48.14	-16.84	31.30	46.00	-14.70	peak	
3		333.1250	42.42	-14.01	28.41	46.00	-17.59	peak	
4		522.7600	36.74	-9.96	26.78	46.00	-19.22	peak	
5		725.4900	33.32	-6.30	27.02	46.00	-18.98	peak	
6		890.8750	33.05	-4.50	28.55	46.00	-17.45	peak	

REMARKS:

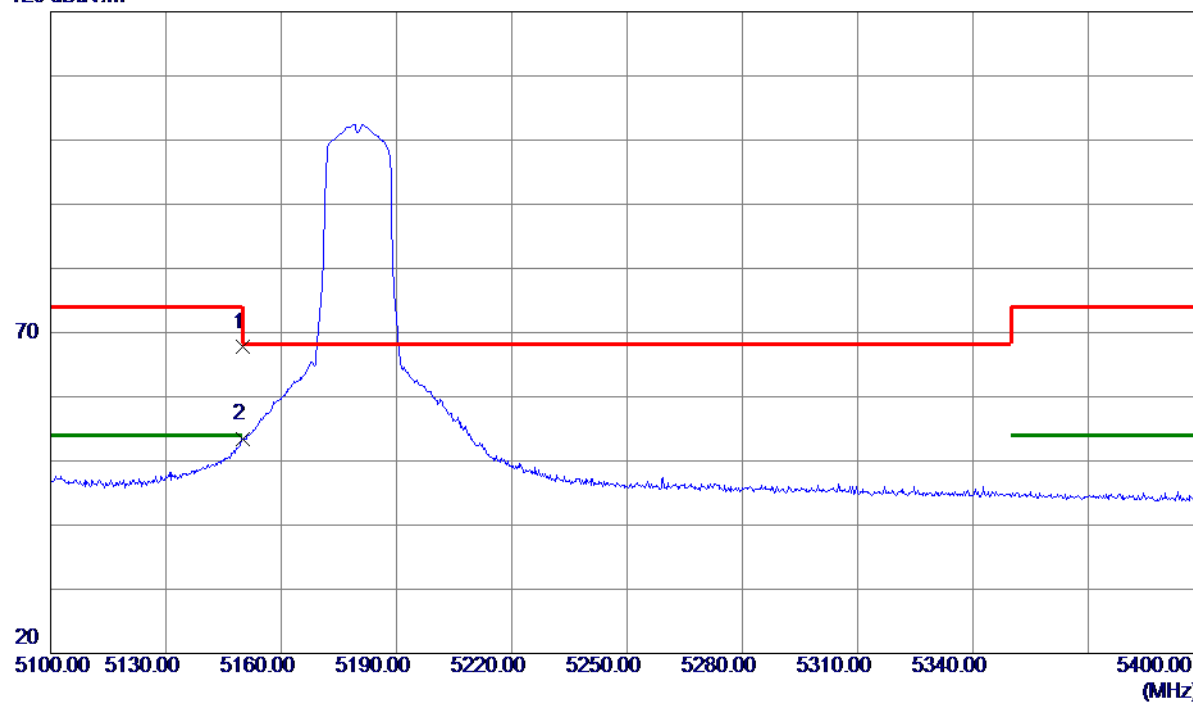
- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5180 MHz

Vertical

120 dBuV/m



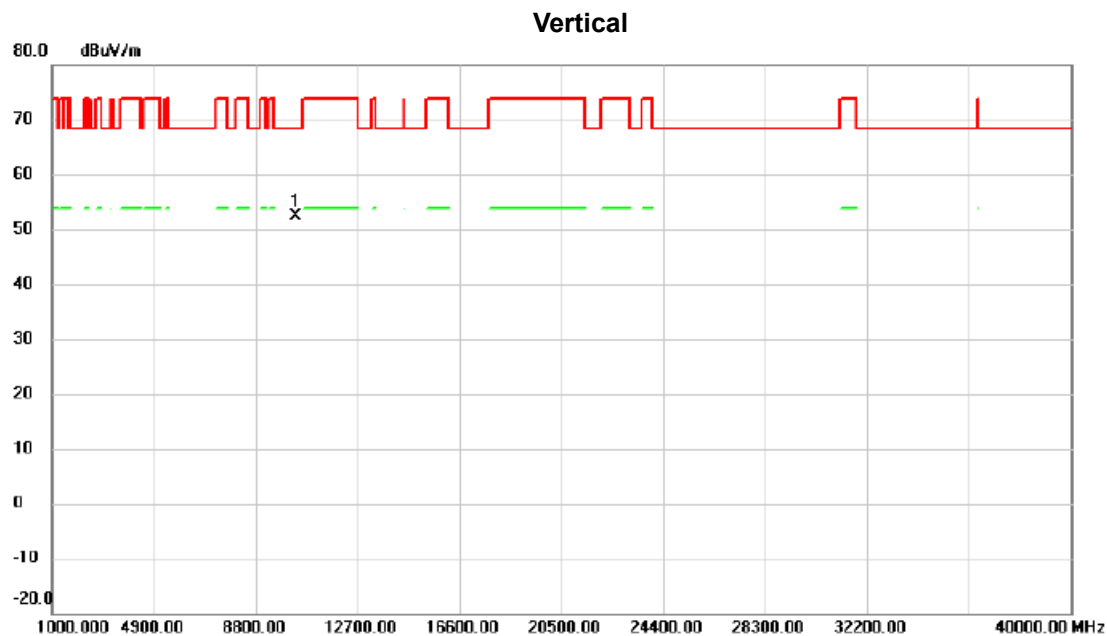
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	28.63	39.07	67.70	74.00	-6.30	Peak	
2 *	5150.0000	14.41	39.07	53.48	54.00	-0.52	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5180 MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10359.75	54.04	-1.64	52.40	68.30	-15.90	peak	

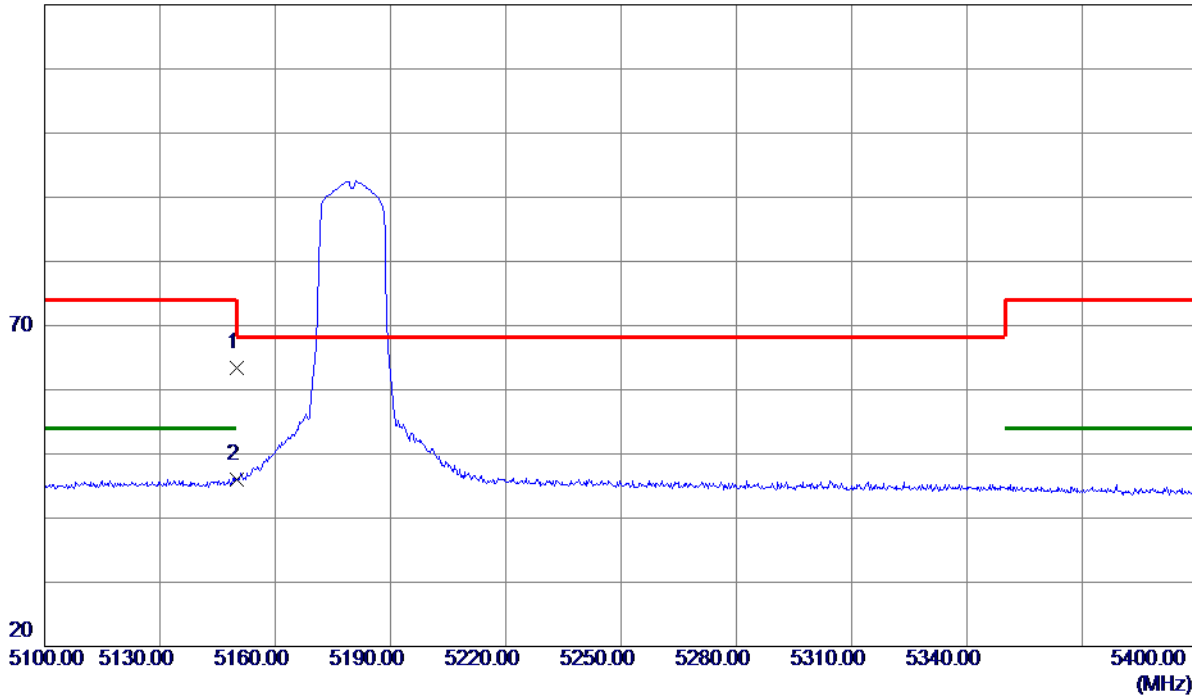
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5180 MHz

Horizontal

120 dBuV/m



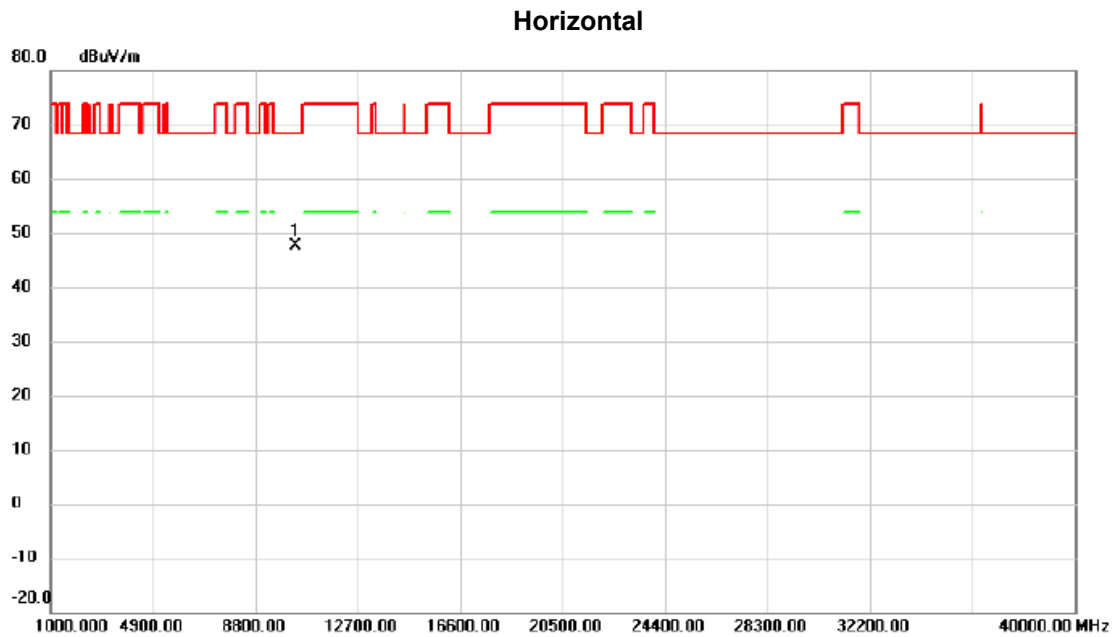
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	24.30	39.07	63.37	74.00	-10.63	Peak	
2 *	5150.0000	6.87	39.07	45.94	54.00	-8.06	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5180 MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10359.67	49.31	-1.64	47.67	68.30	-20.63	peak	

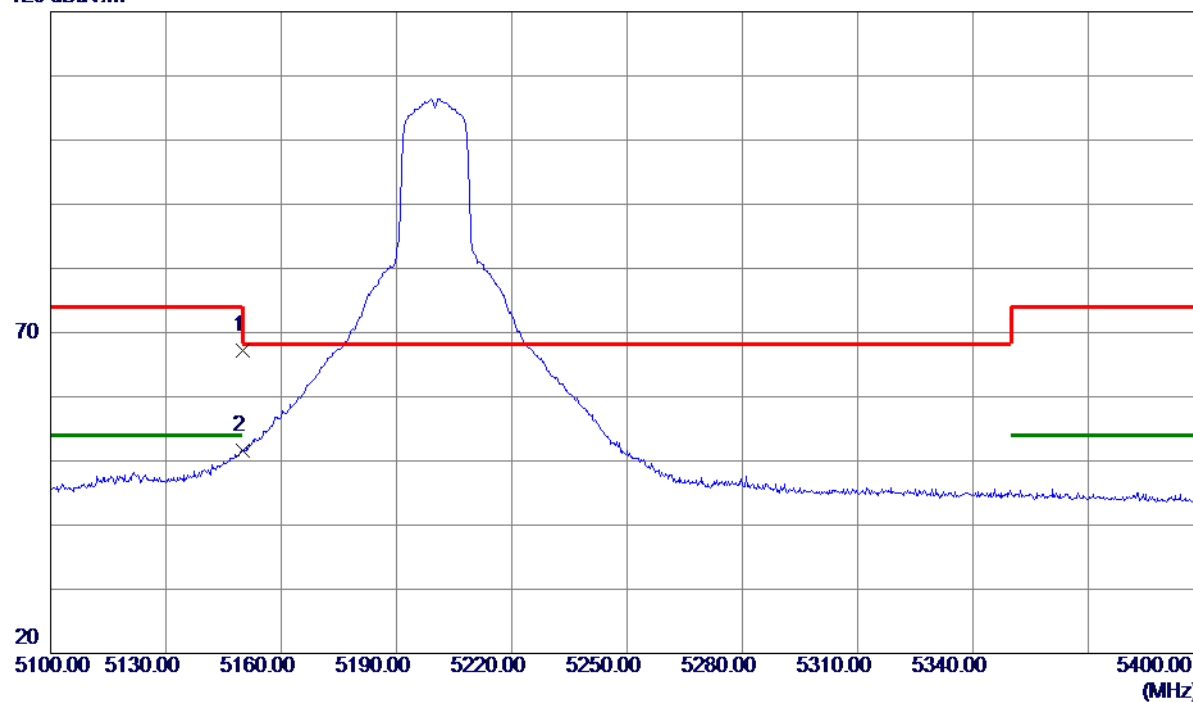
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5200 MHz

Vertical

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	28.14	39.07	67.21	74.00	-6.79	Peak	
2 *	5150.0000	12.49	39.07	51.56	54.00	-2.44	AVG	

REMARKS:

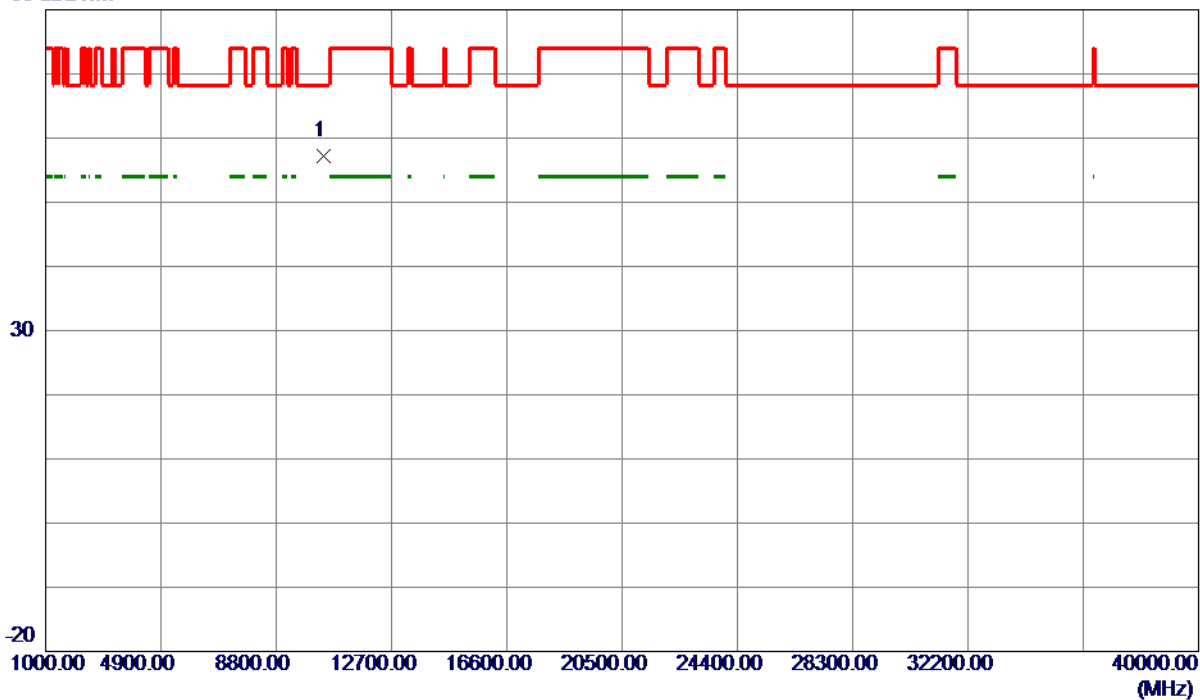
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5200 MHz

Vertical

80 dBuV/m



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10395.4250	58.87	-1.61	57.26	68.30	-11.04	Peak	

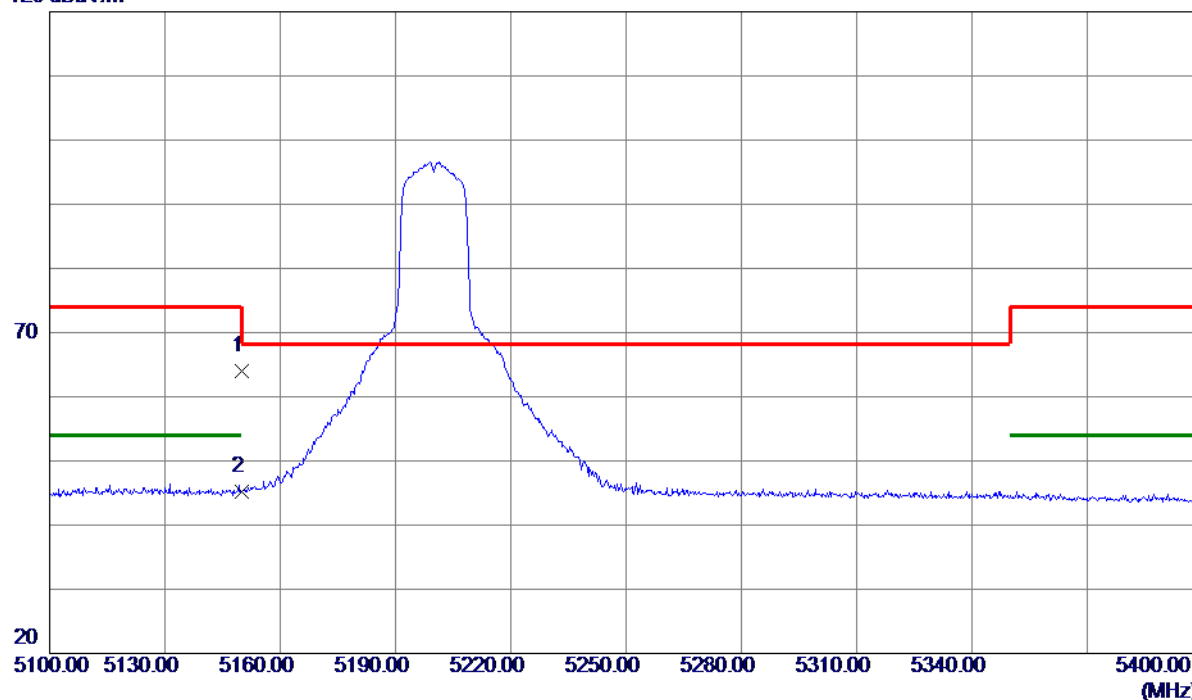
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5200 MHz

Horizontal

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	24.90	39.07	63.97	74.00	-10.03	Peak	
2 *	5150.0000	6.17	39.07	45.24	54.00	-8.76	AVG	

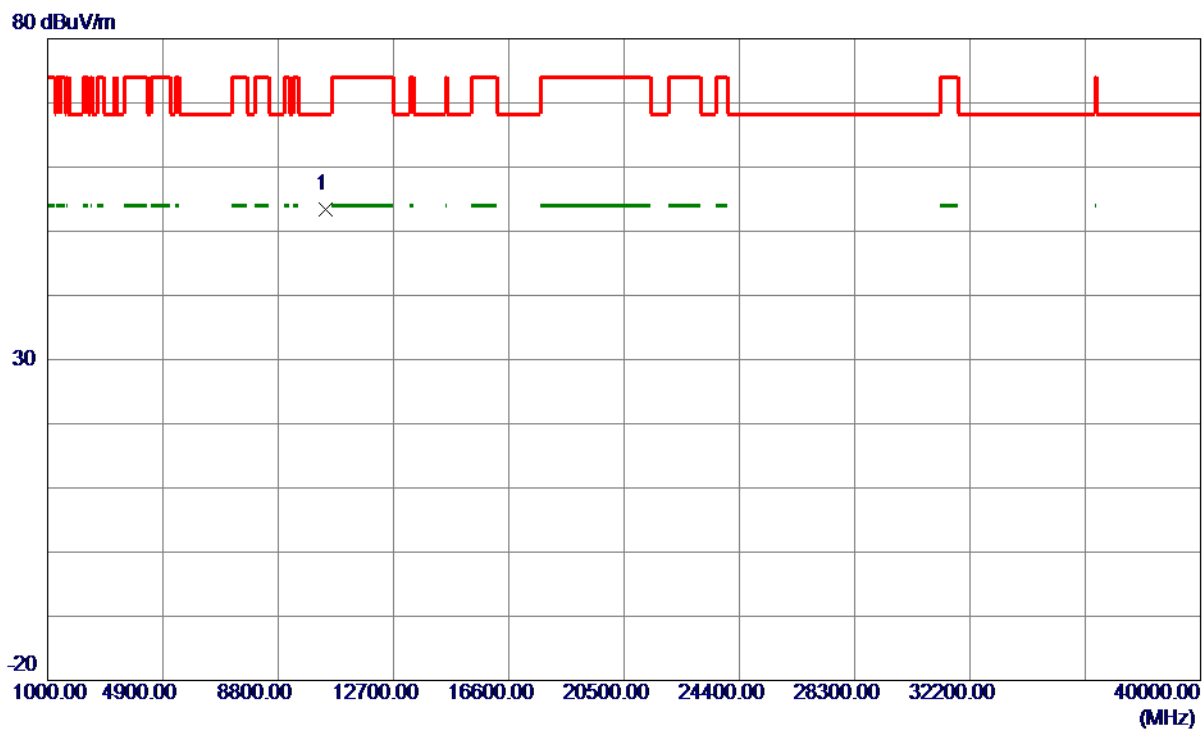
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5200 MHz

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10401.4500	54.96	-1.60	53.36	68.30	-14.94	Peak	

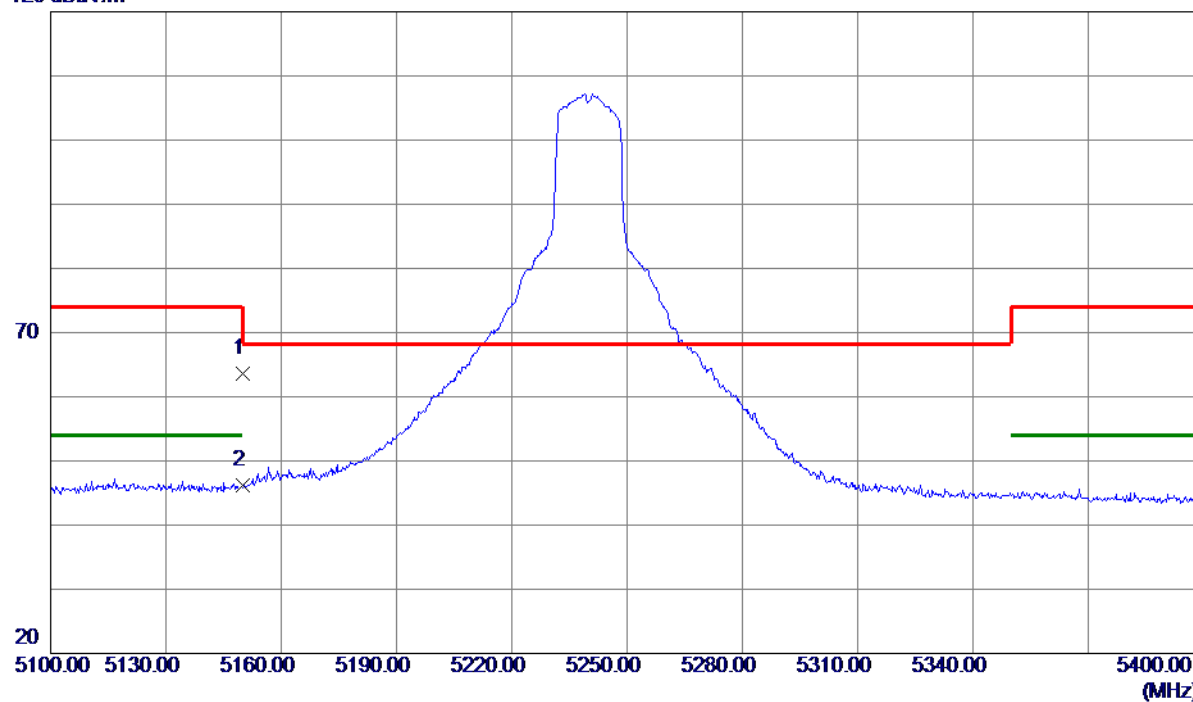
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5240 MHz

Vertical

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	24.53	39.07	63.60	74.00	-10.40	Peak	
2 *	5150.0000	7.20	39.07	46.27	54.00	-7.73	AVG	

REMARKS:

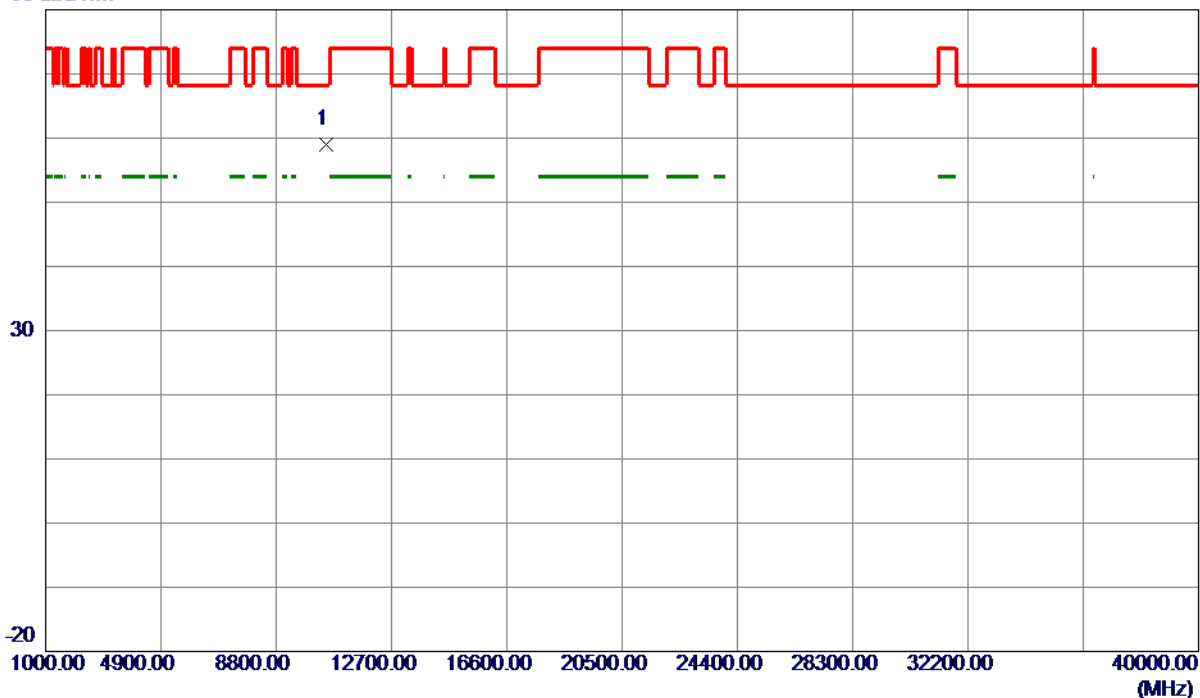
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5240 MHz

Vertical

80 dBuV/m



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10480.9500	60.51	-1.53	58.98	68.30	-9.32	Peak	

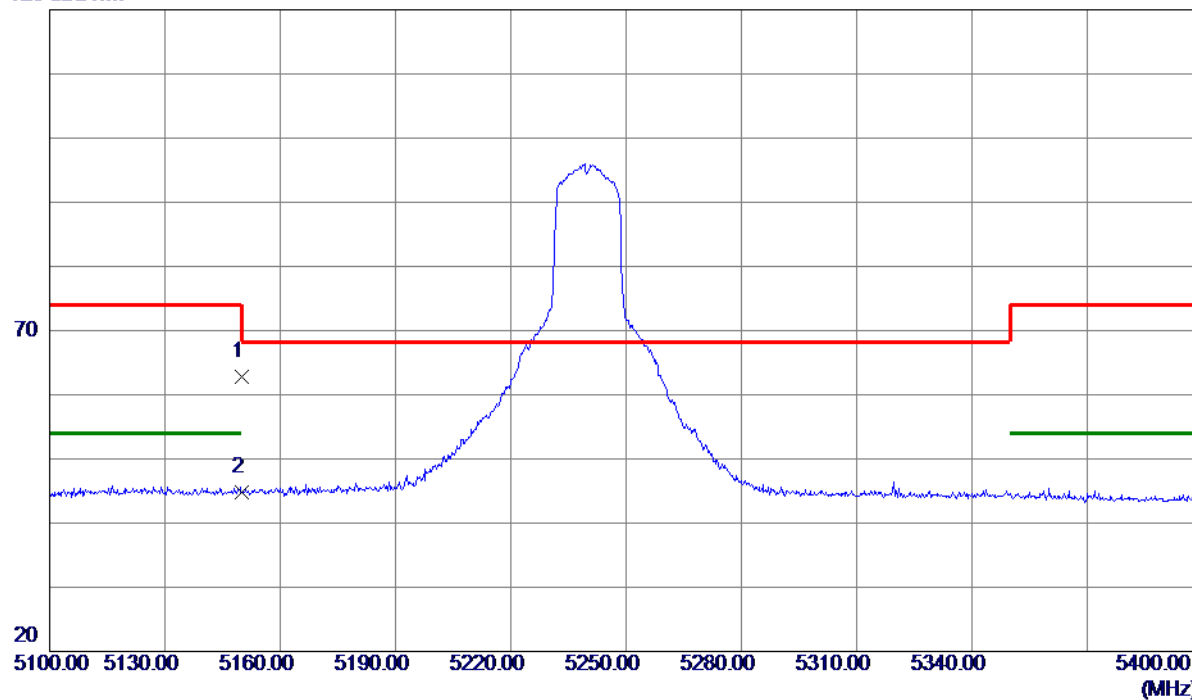
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5240 MHz

Horizontal

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	23.75	39.07	62.82	74.00	-11.18	Peak	
2 *	5150.0000	5.80	39.07	44.87	54.00	-9.13	AVG	

REMARKS:

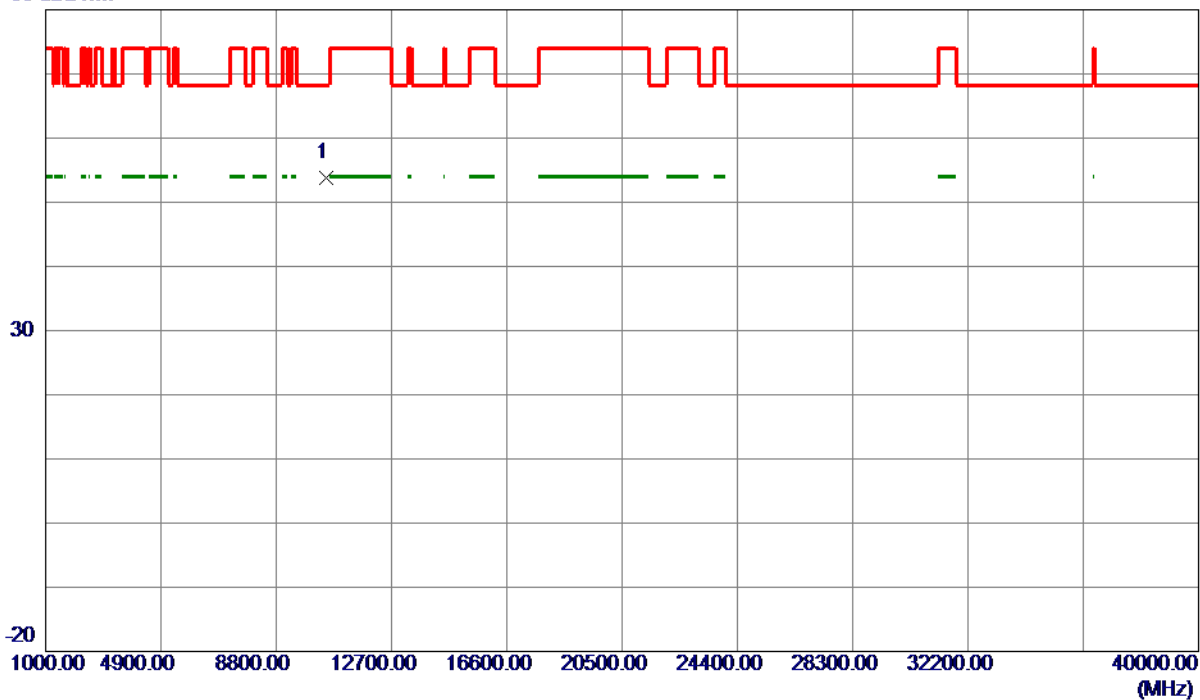
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5240 MHz

Horizontal

80 dBuV/m



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10476.2250	55.39	-1.53	53.86	68.30	-14.44	Peak	

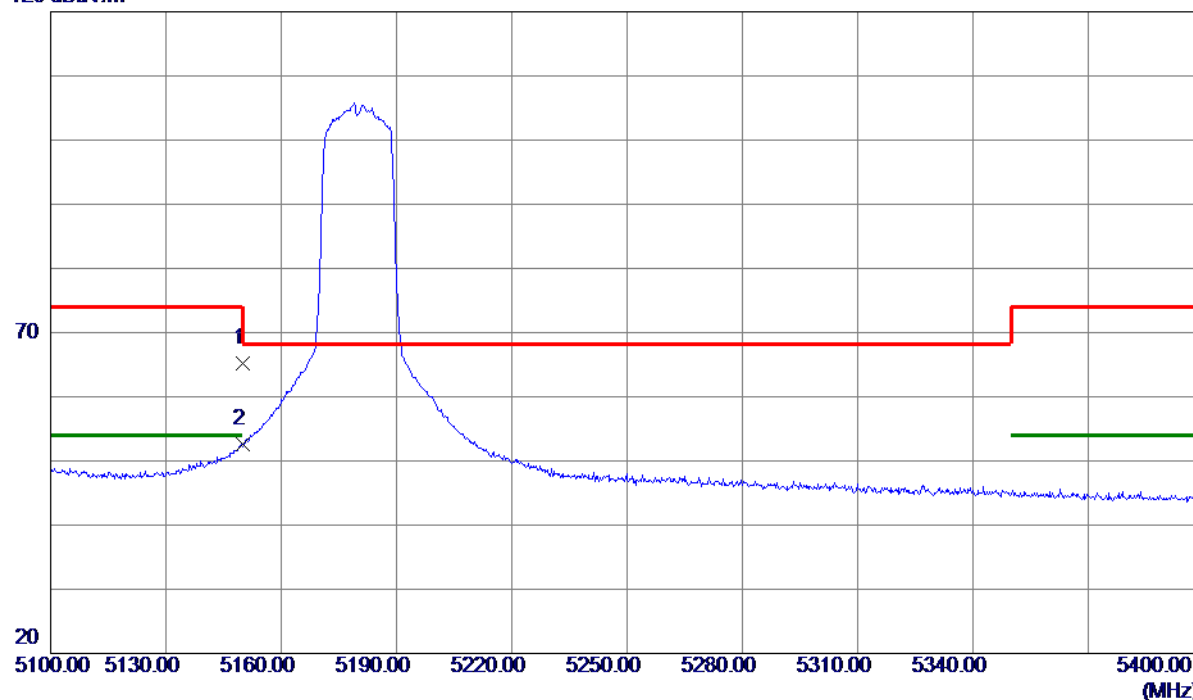
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5180 MHz

Vertical

120 dBuV/m



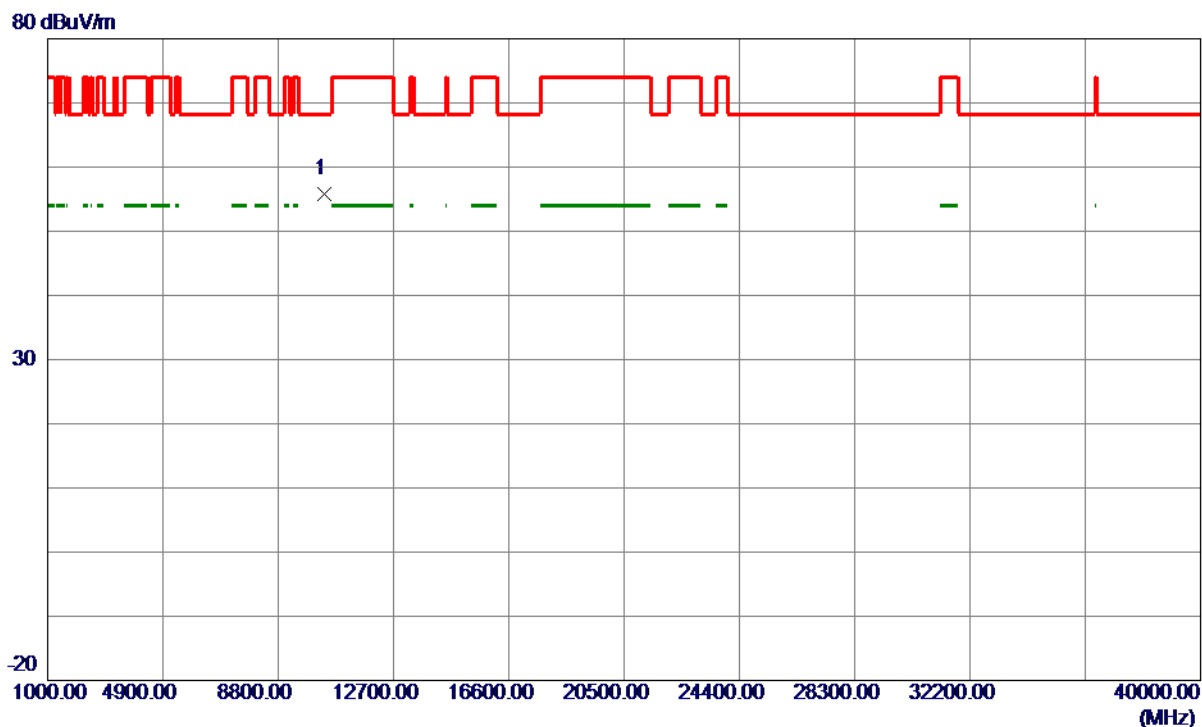
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	26.09	39.07	65.16	74.00	-8.84	Peak	
2 *	5150.0000	13.52	39.07	52.59	54.00	-1.41	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5180 MHz

Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10359.5000	57.52	-1.64	55.88	68.30	-12.42	Peak	

REMARKS:

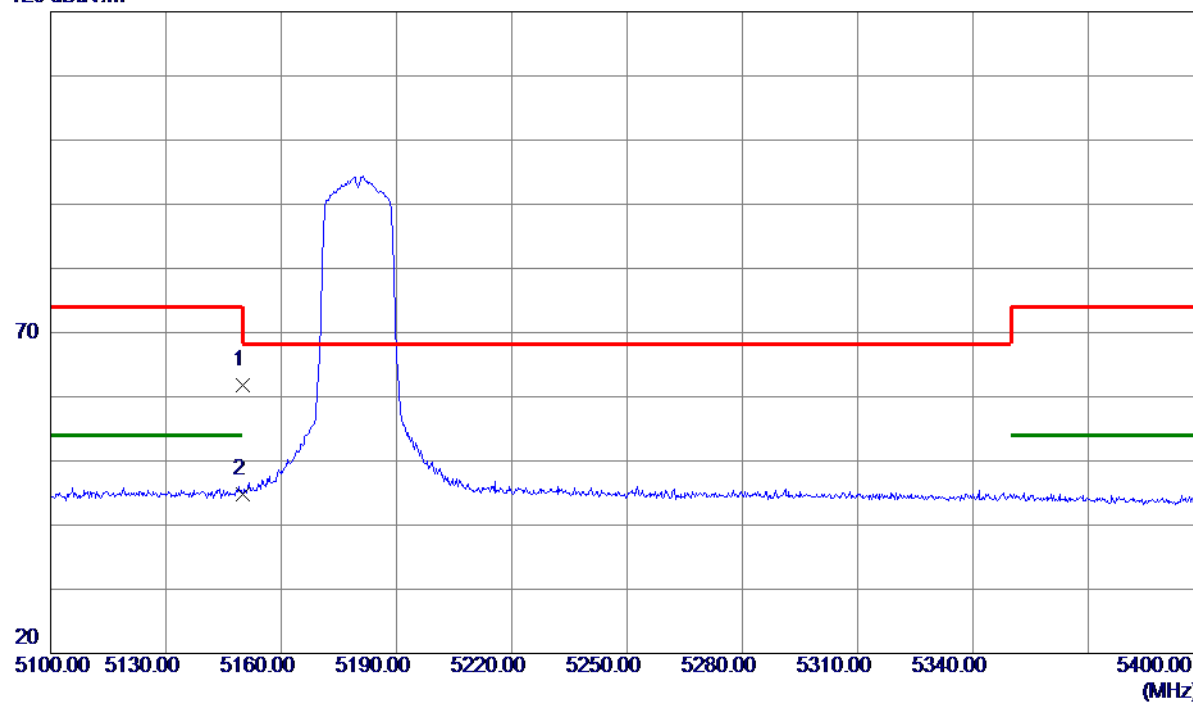
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5180 MHz

Horizontal

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	22.67	39.07	61.74	74.00	-12.26	Peak	
2 *	5150.0000	5.81	39.07	44.88	54.00	-9.12	AVG	

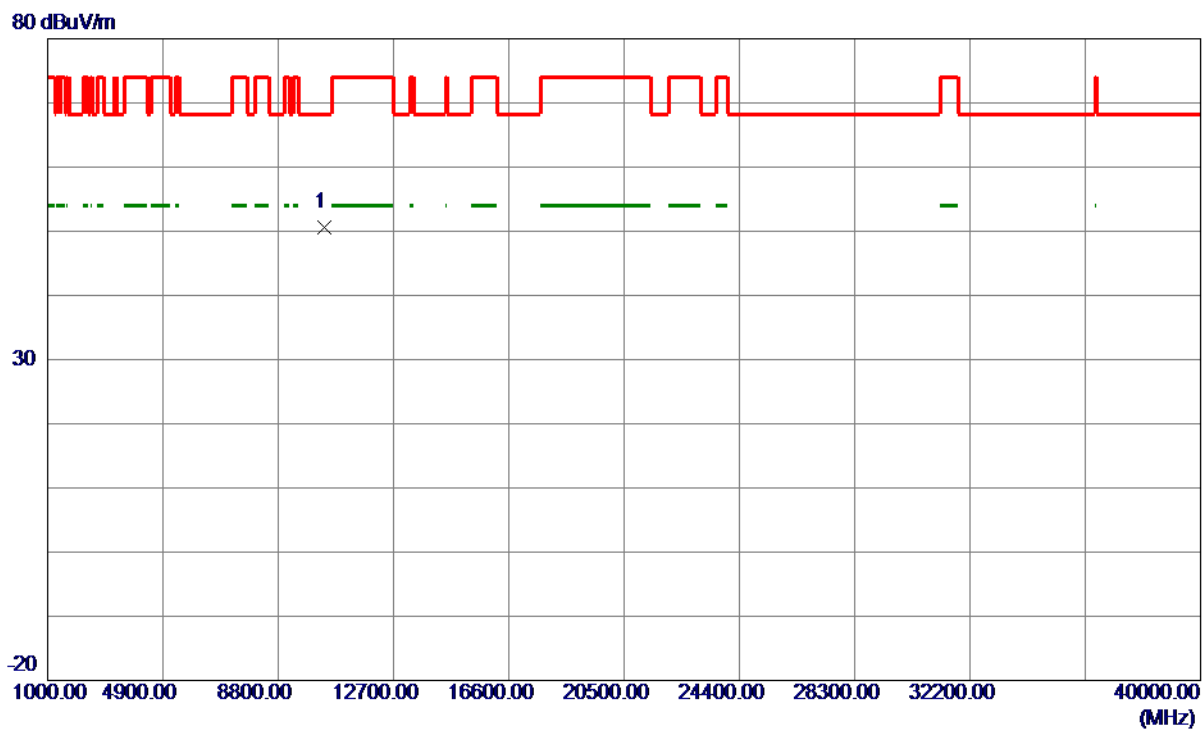
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5180 MHz

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10356.8500	52.22	-1.65	50.57	68.30	-17.73	Peak	

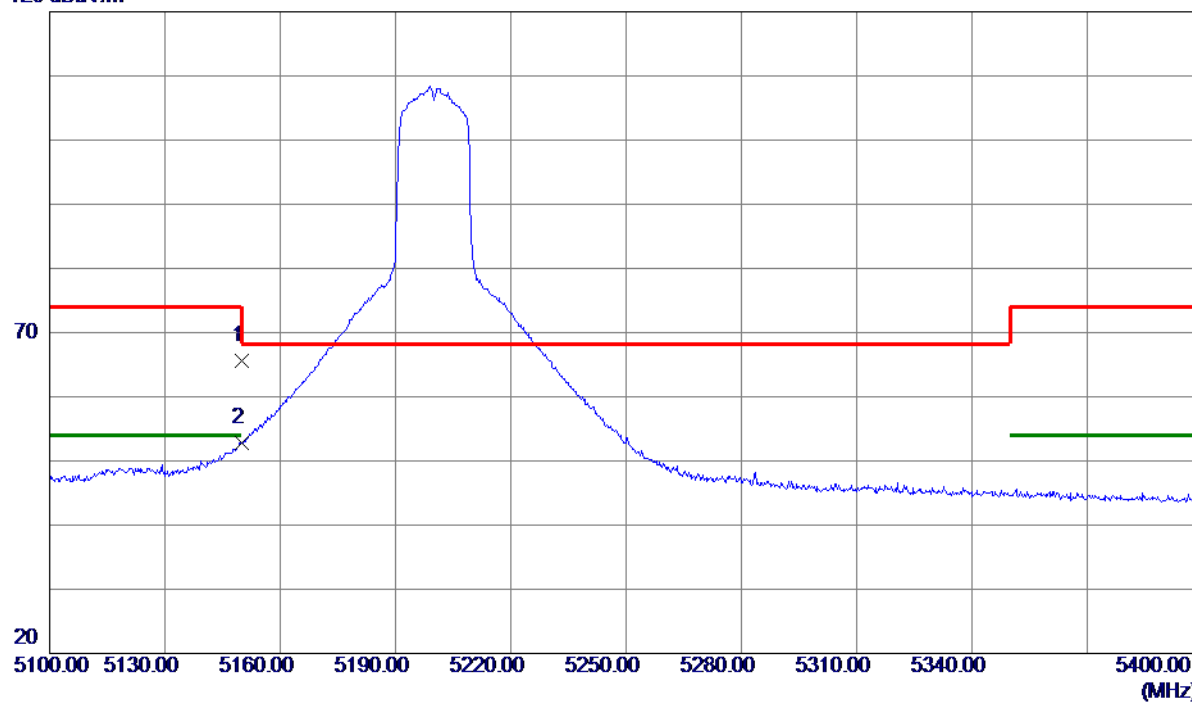
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5200 MHz

Vertical

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	26.60	39.07	65.67	74.00	-8.33	Peak	
2 *	5150.0000	13.66	39.07	52.73	54.00	-1.27	AVG	

REMARKS:

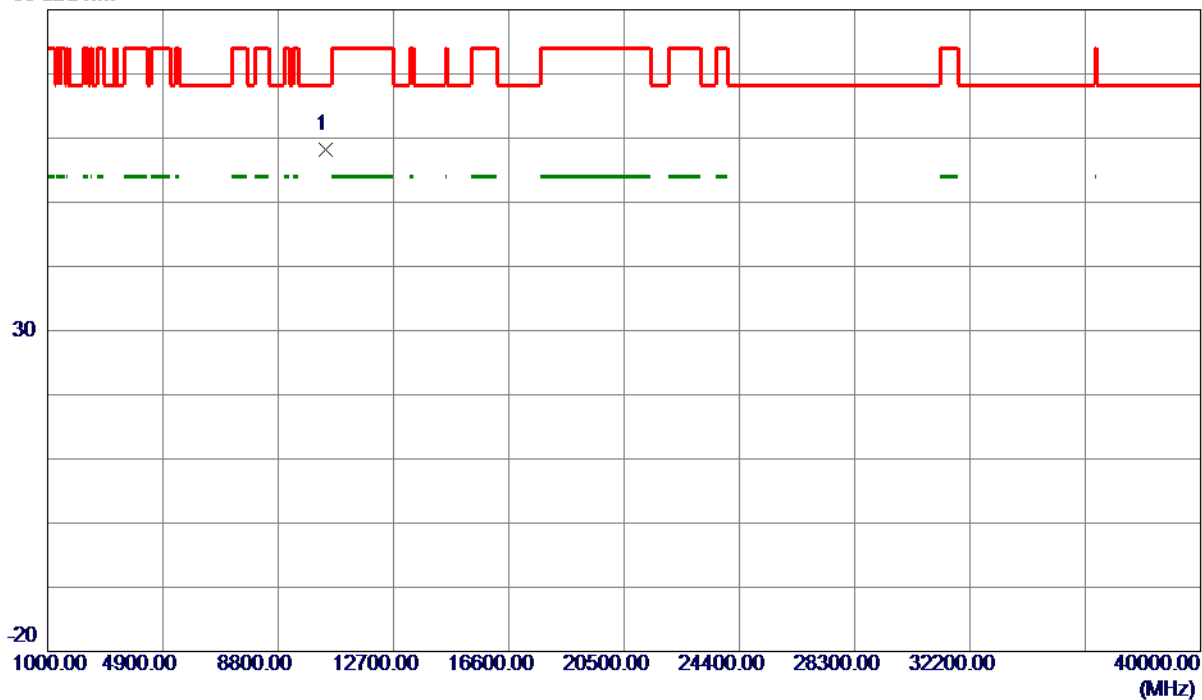
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5200 MHz

Vertical

80 dBuV/m



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10396.3750	59.85	-1.61	58.24	68.30	-10.06	Peak	

REMARKS:

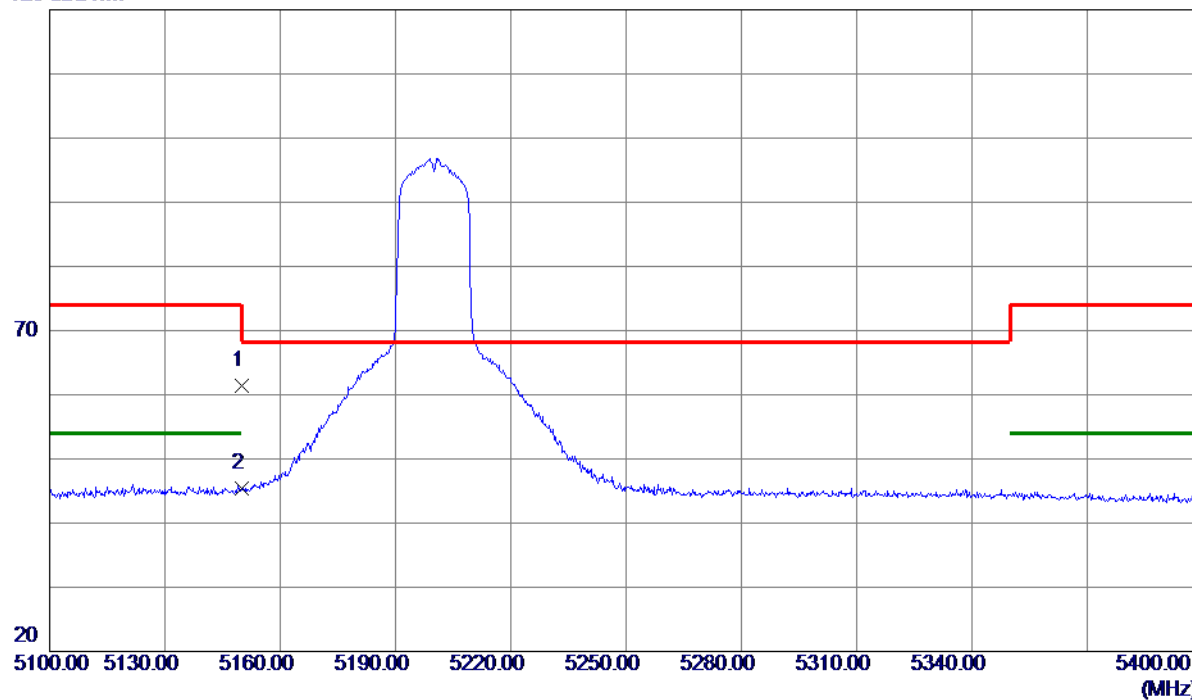
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5200 MHz

Horizontal

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	22.40	39.07	61.47	74.00	-12.53	Peak	
2 *	5150.0000	6.27	39.07	45.34	54.00	-8.66	AVG	

REMARKS:

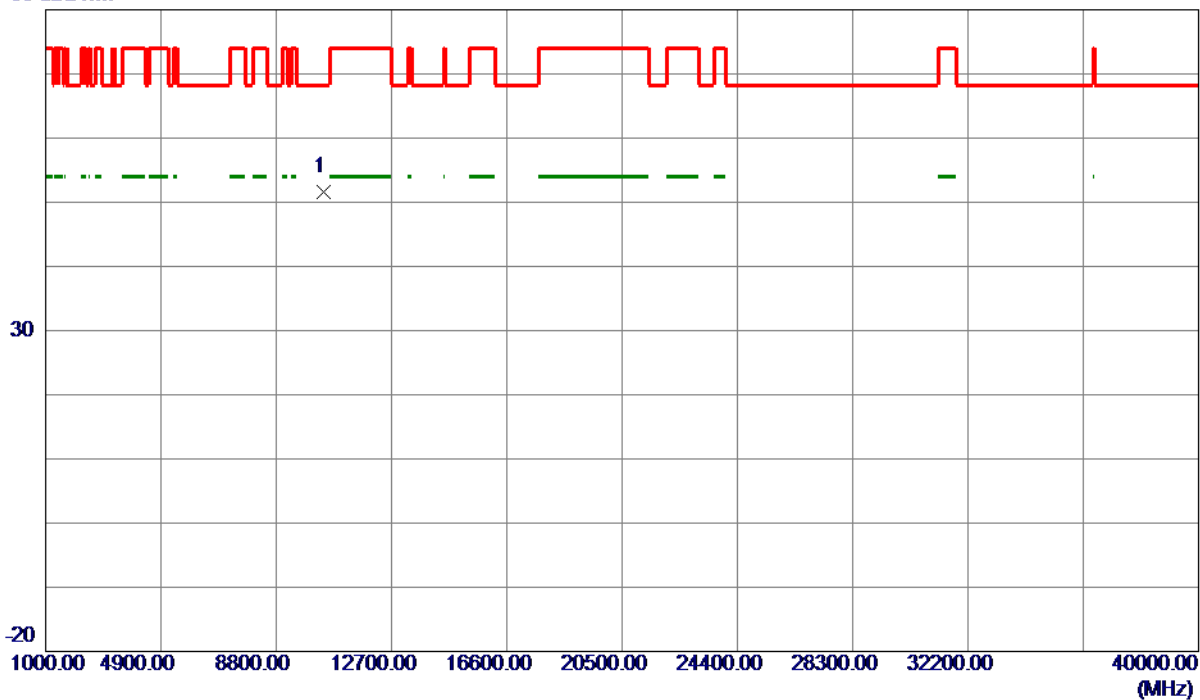
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5200 MHz

Horizontal

80 dBuV/m



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10399.0250	53.12	-1.61	51.51	68.30	-16.79	Peak	

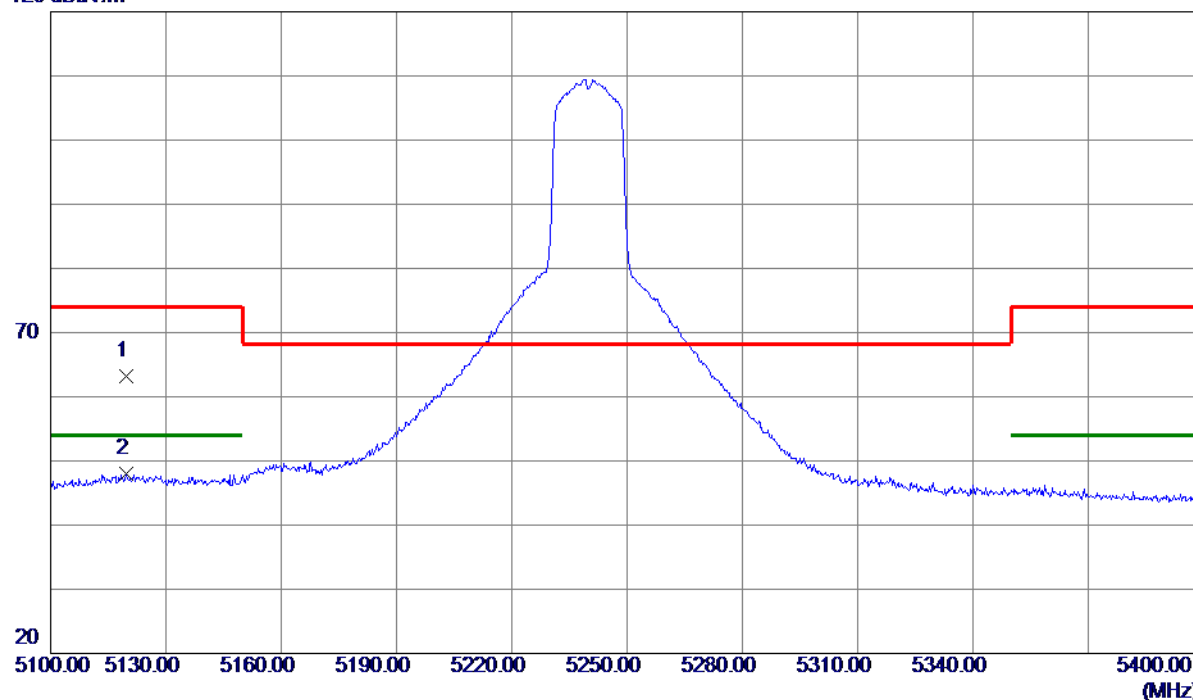
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5240 MHz

Vertical

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5119.6500	24.19	39.03	63.22	74.00	-10.78	Peak	
2 *	5119.6500	8.95	39.03	47.98	54.00	-6.02	AVG	

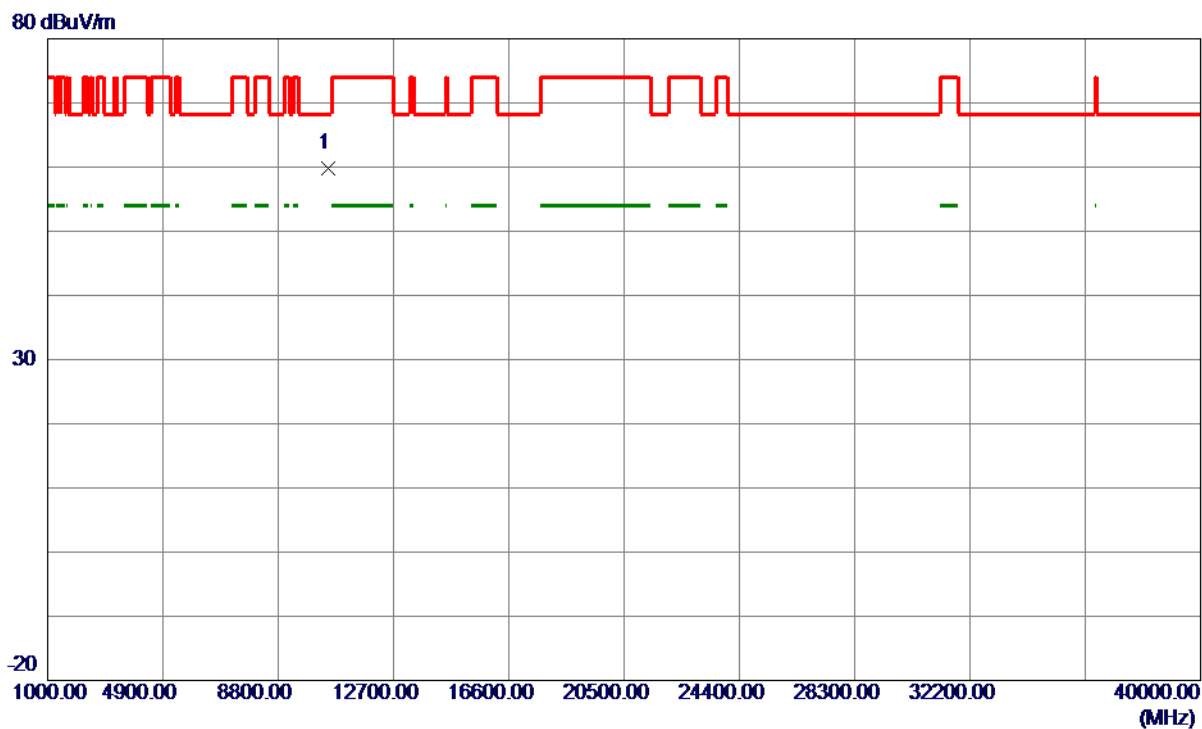
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5240 MHz

Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10480.6750	61.36	-1.53	59.83	68.30	-8.47	Peak	

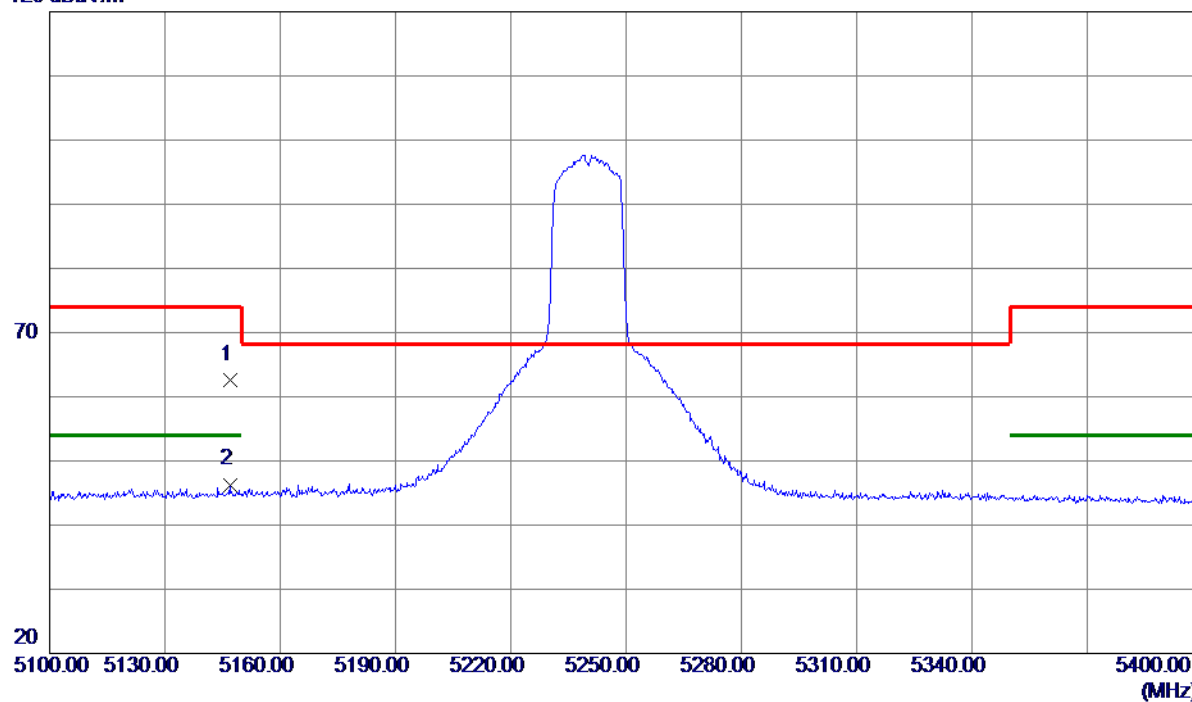
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5240 MHz

Horizontal

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5146.9500	23.59	39.07	62.66	74.00	-11.34	Peak	
2 *	5146.9500	7.23	39.07	46.30	54.00	-7.70	AVG	

REMARKS:

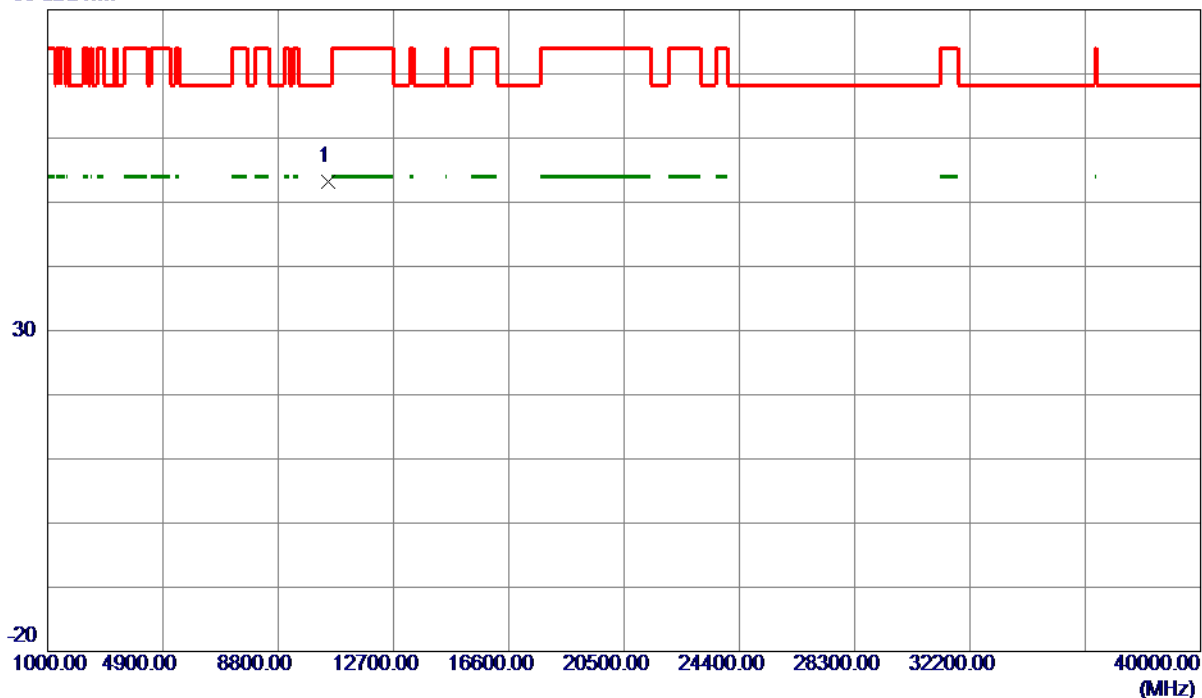
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT20) Mode 5240 MHz

Horizontal

80 dBuV/m



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10476.9000	54.69	-1.53	53.16	68.30	-15.14	Peak	

REMARKS:

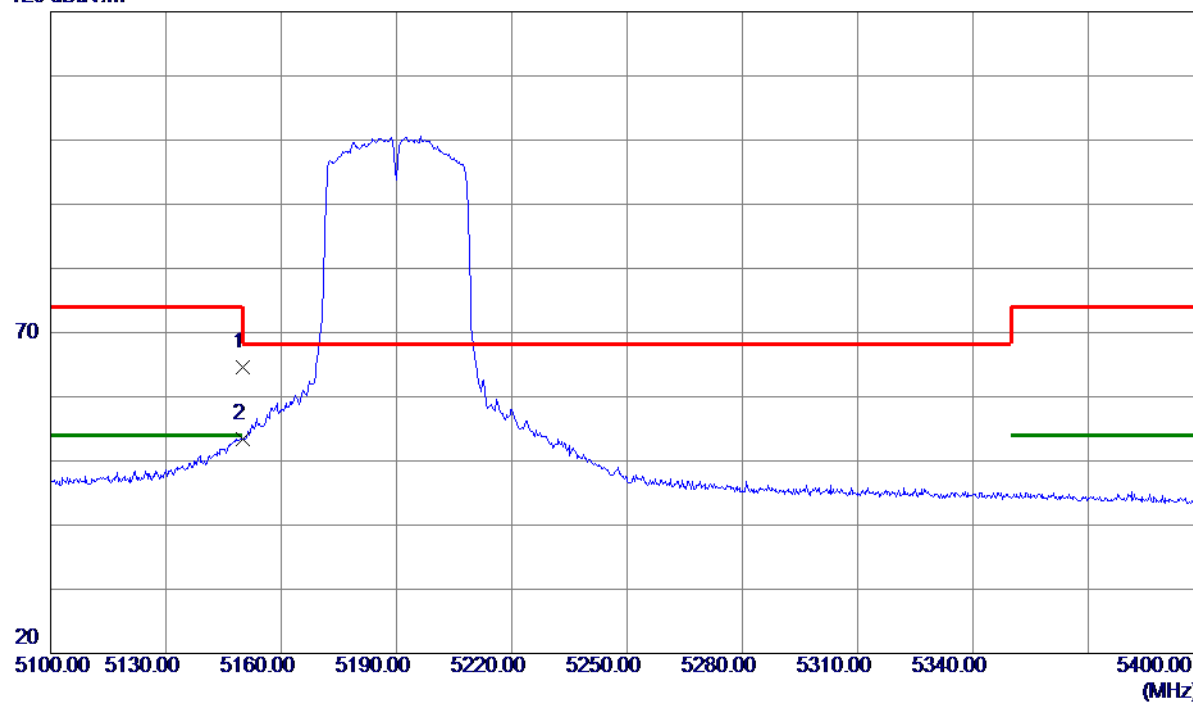
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT40) Mode 5190 MHz

Vertical

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	25.44	39.07	64.51	74.00	-9.49	Peak	
2 *	5150.0000	14.28	39.07	53.35	54.00	-0.65	AVG	

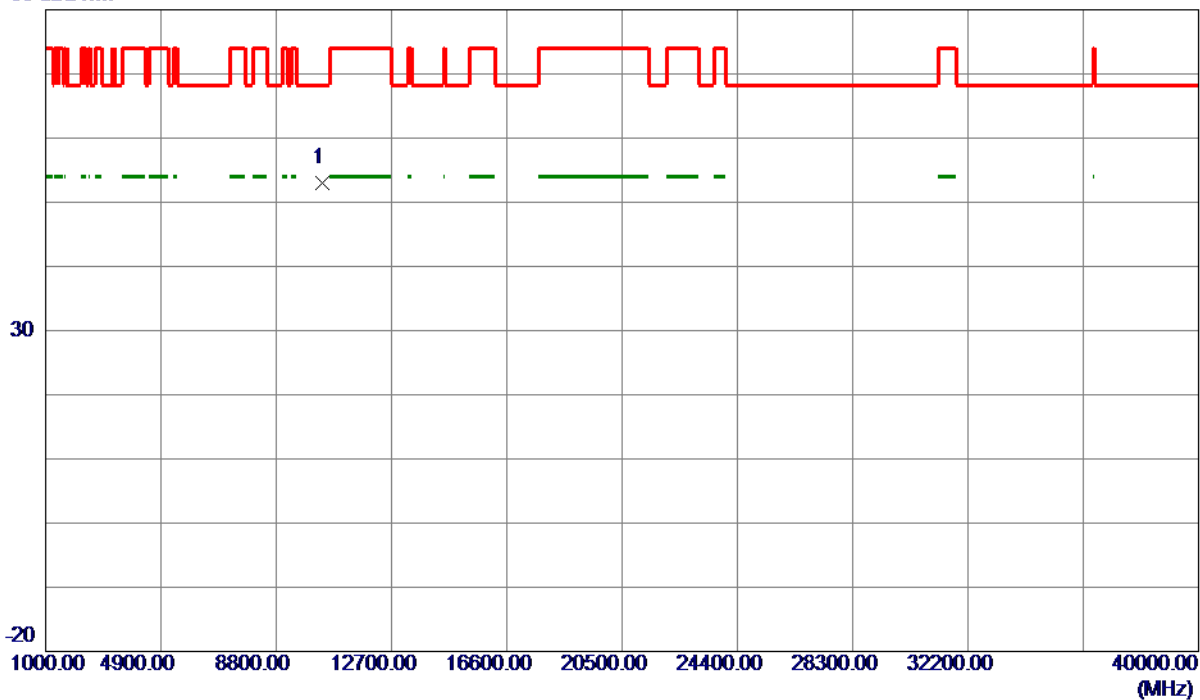
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT40) Mode 5190 MHz

Vertical

80 dBuV/m



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10374.5500	54.66	-1.63	53.03	68.30	-15.27	Peak	

REMARKS:

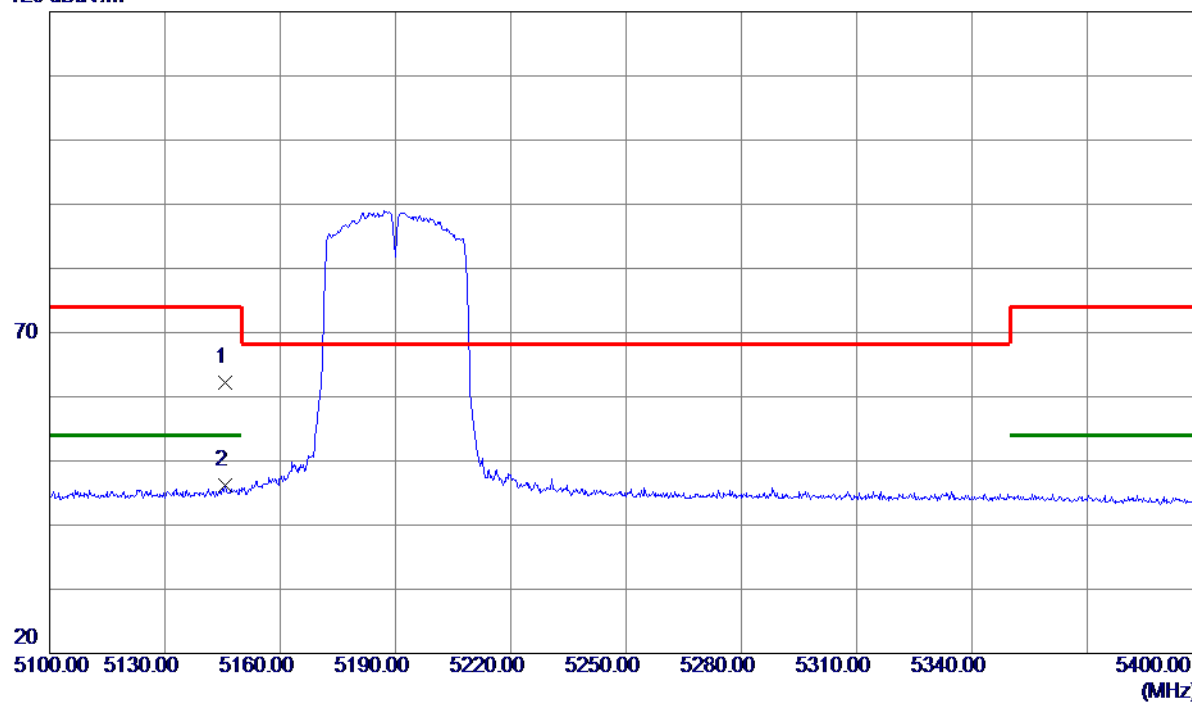
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT40) Mode 5190 MHz

Horizontal

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5145.6000	23.13	39.06	62.19	74.00	-11.81	Peak	
2 *	5145.6000	7.07	39.06	46.13	54.00	-7.87	AVG	

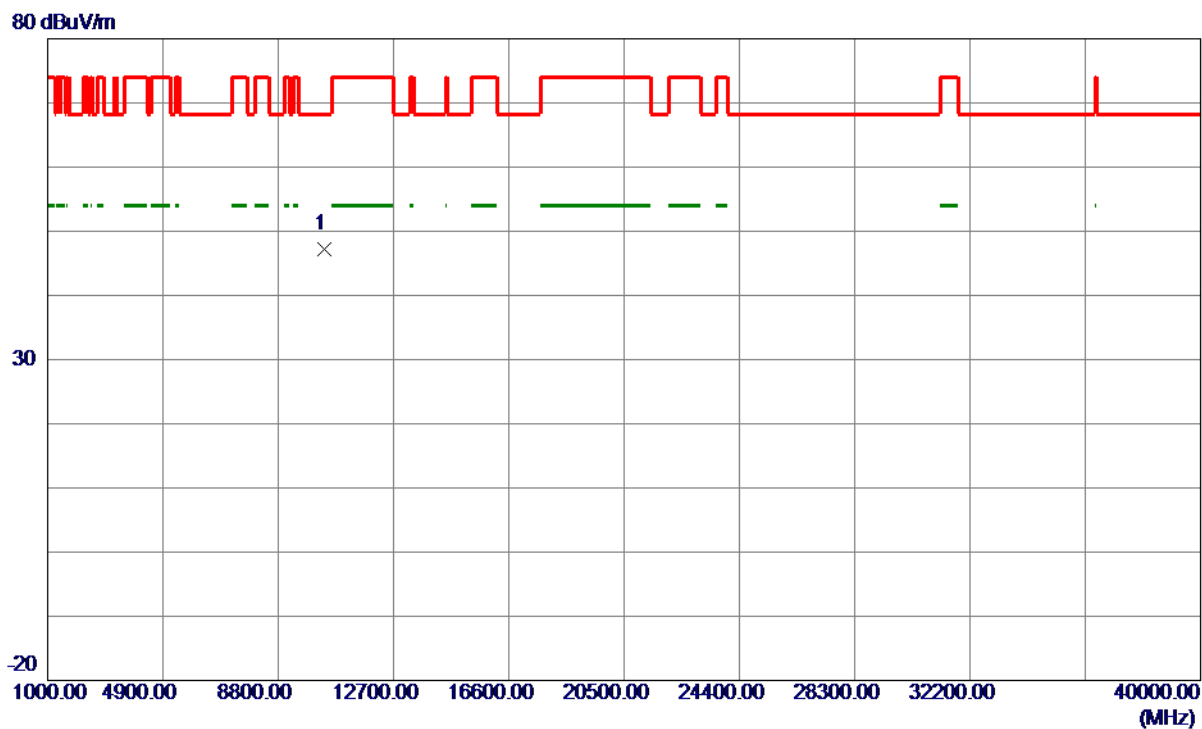
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT40) Mode 5190 MHz

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10376.4000	48.91	-1.63	47.28	68.30	-21.02	Peak	

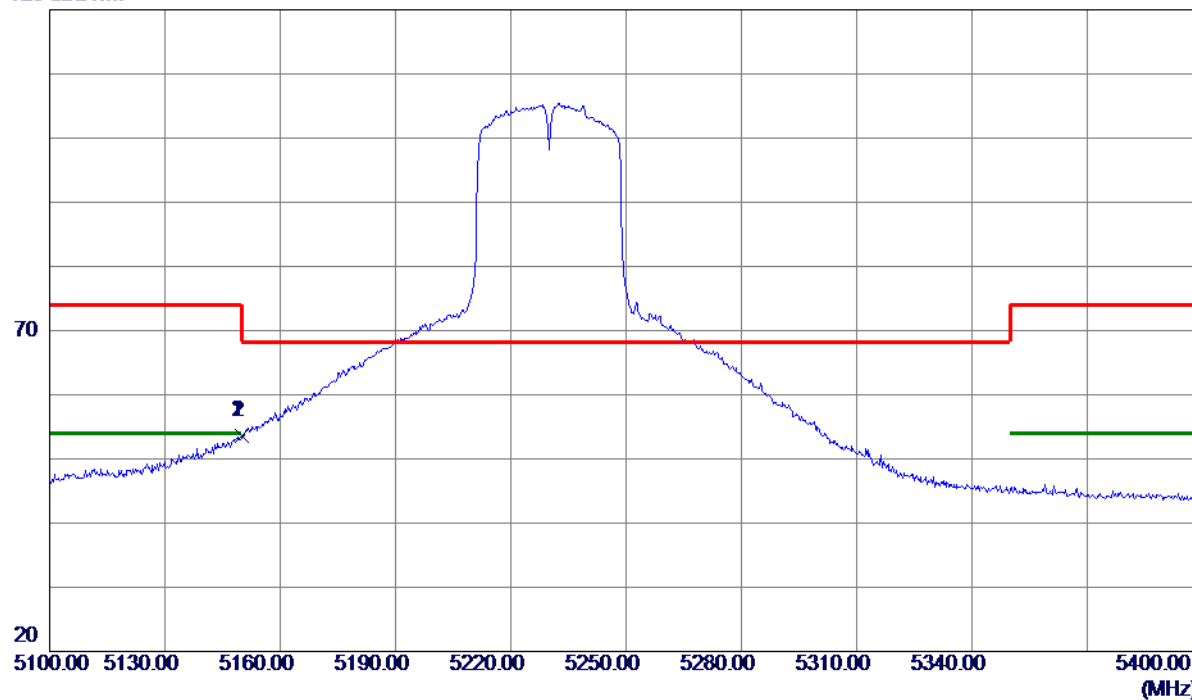
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT40) Mode 5230 MHz

Vertical

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	14.44	39.07	53.51	74.00	-20.49	Peak	
2 *	5150.0000	14.44	39.07	53.51	54.00	-0.49	AVG	

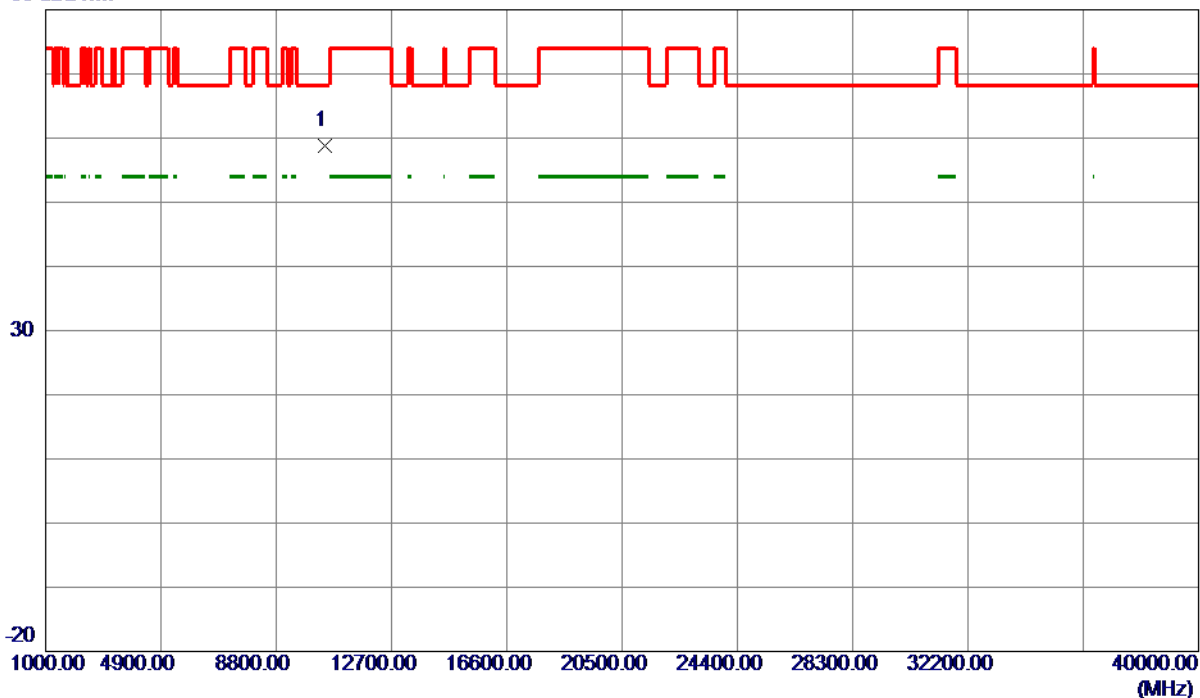
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT40) Mode 5230 MHz

Vertical

80 dBuV/m



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10456.6500	60.30	-1.55	58.75	68.30	-9.55	Peak	

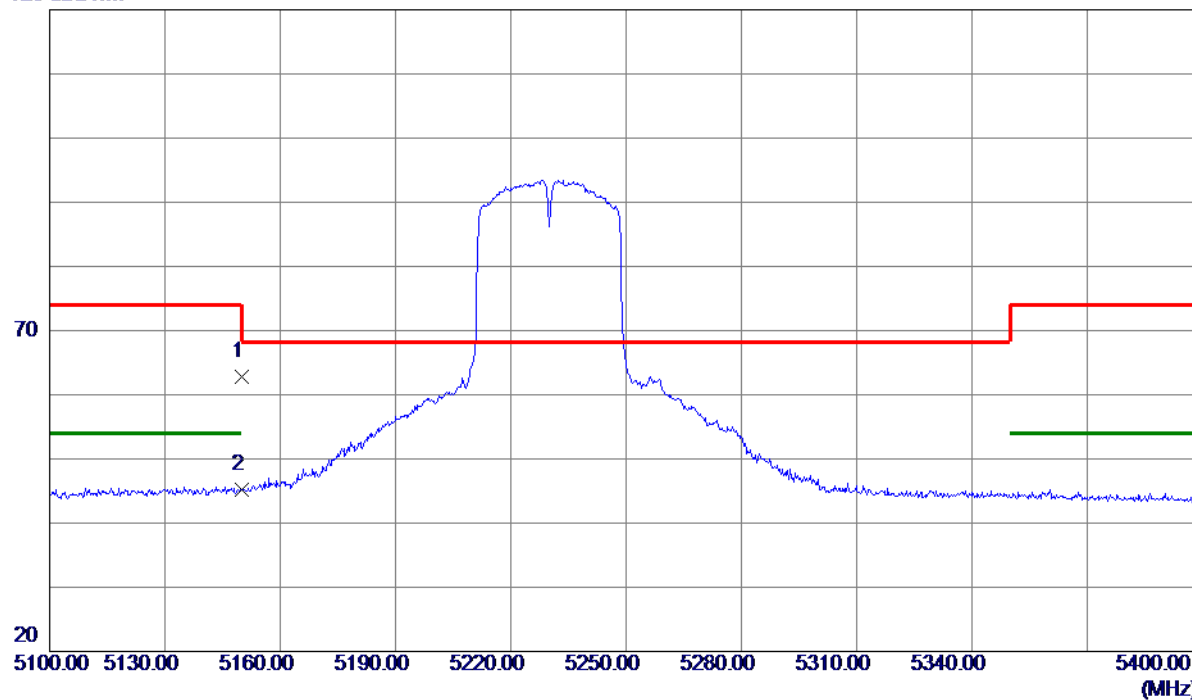
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT40) Mode 5230 MHz

Horizontal

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	23.64	39.07	62.71	74.00	-11.29	Peak	
2 *	5150.0000	6.10	39.07	45.17	54.00	-8.83	AVG	

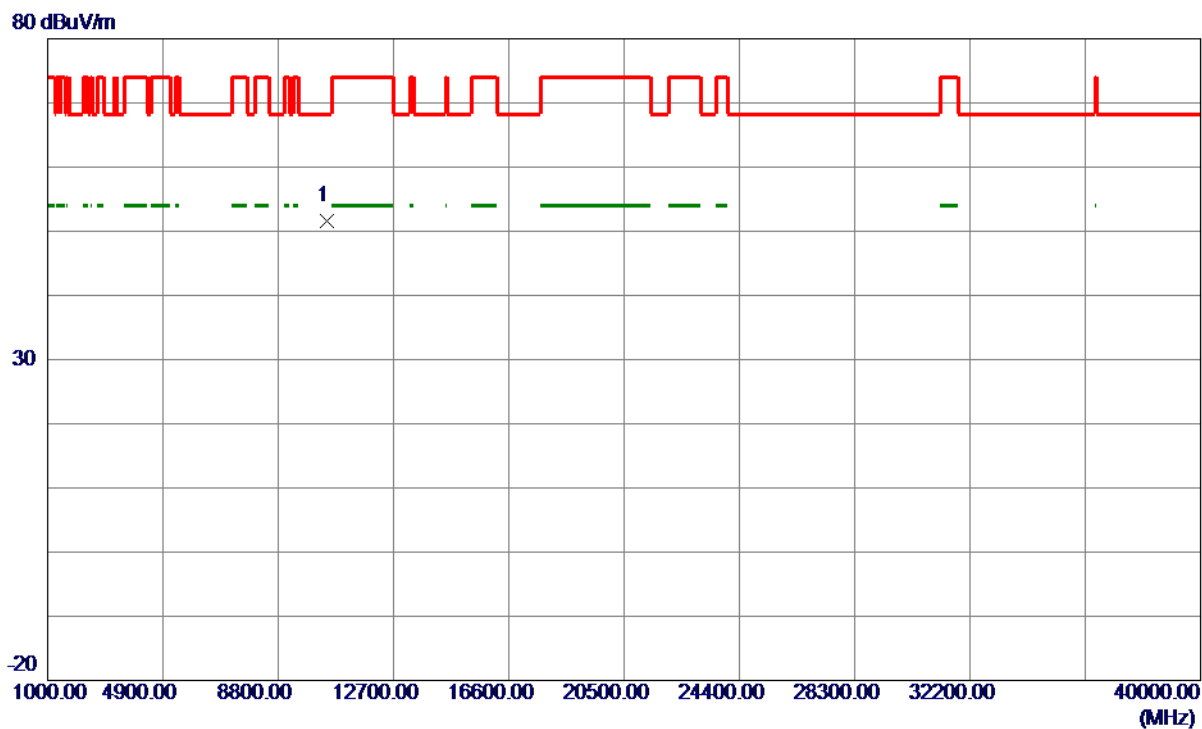
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX N (HT40) Mode 5230 MHz

Horizontal

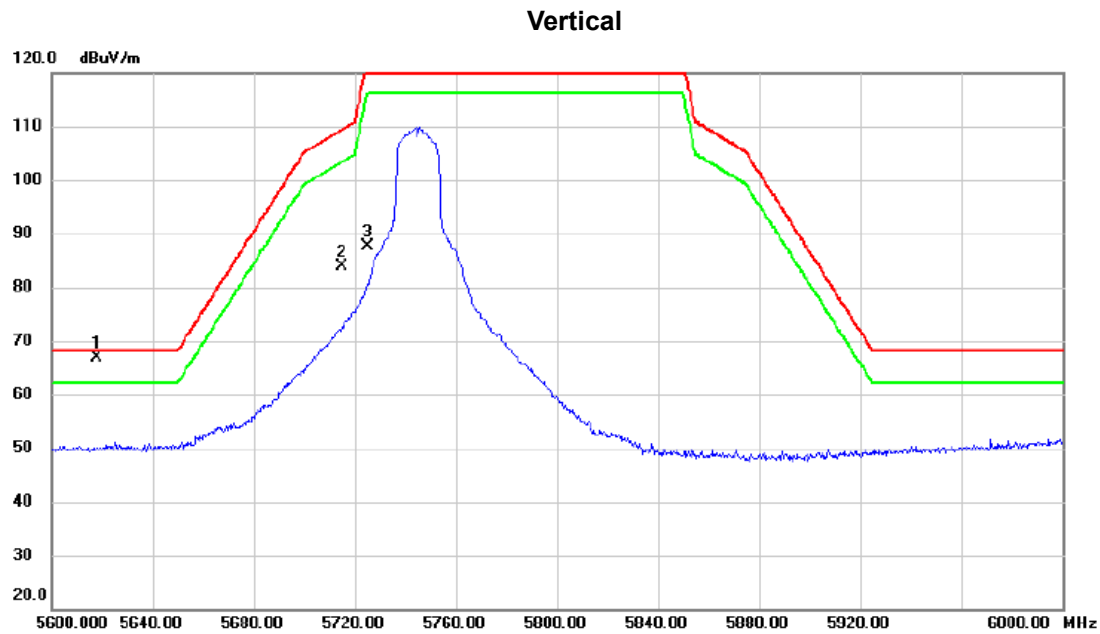


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	10456.5000	53.09	-1.55	51.54	68.30	-16.76	Peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5745 MHz



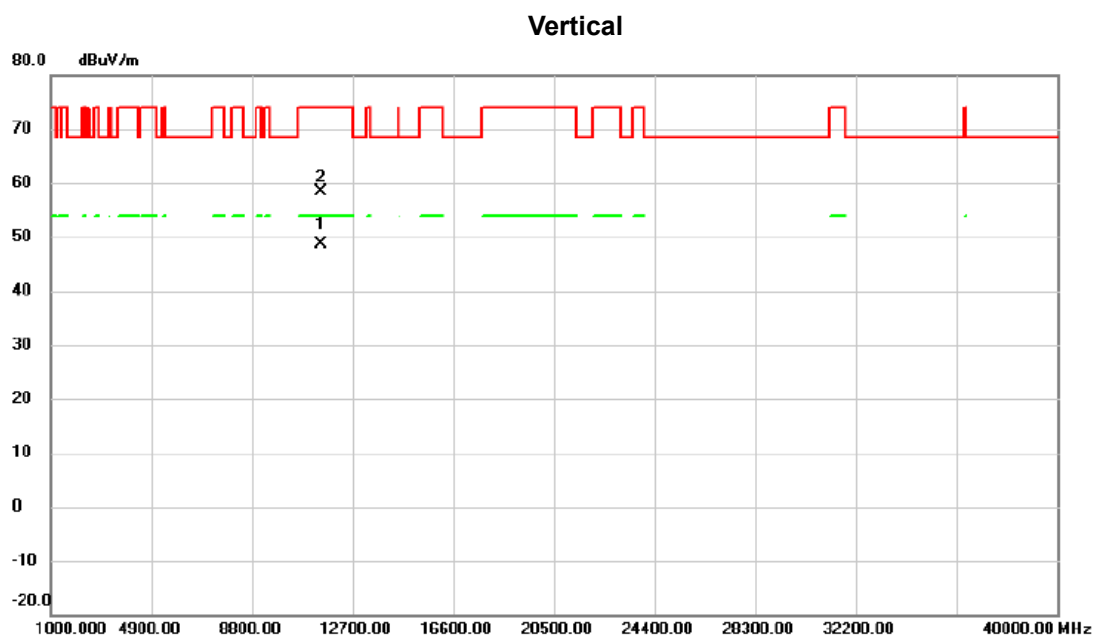
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5618.000	25.42	41.43	66.85	68.20	-1.35	peak	
2		5715.000	42.42	41.58	84.00	109.40	-25.40	peak	
3		5725.000	45.96	41.60	87.56	122.20	-34.64	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5745 MHz

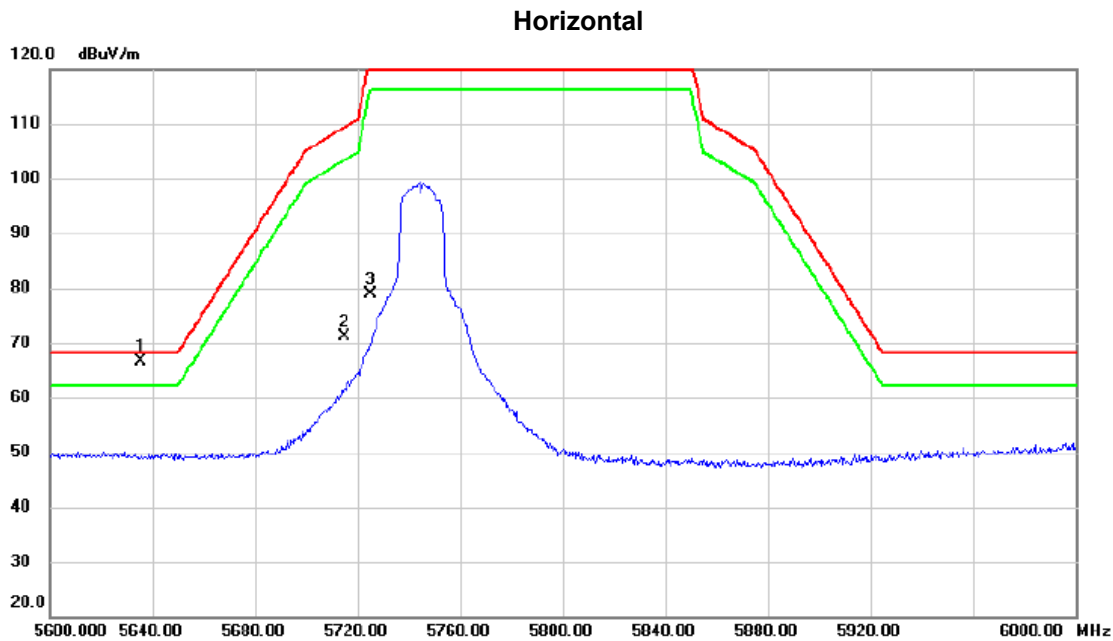


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11491.42	46.33	2.18	48.51	54.00	-5.49	AVG	
2		11491.50	56.16	2.18	58.34	74.00	-15.66	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5745 MHz

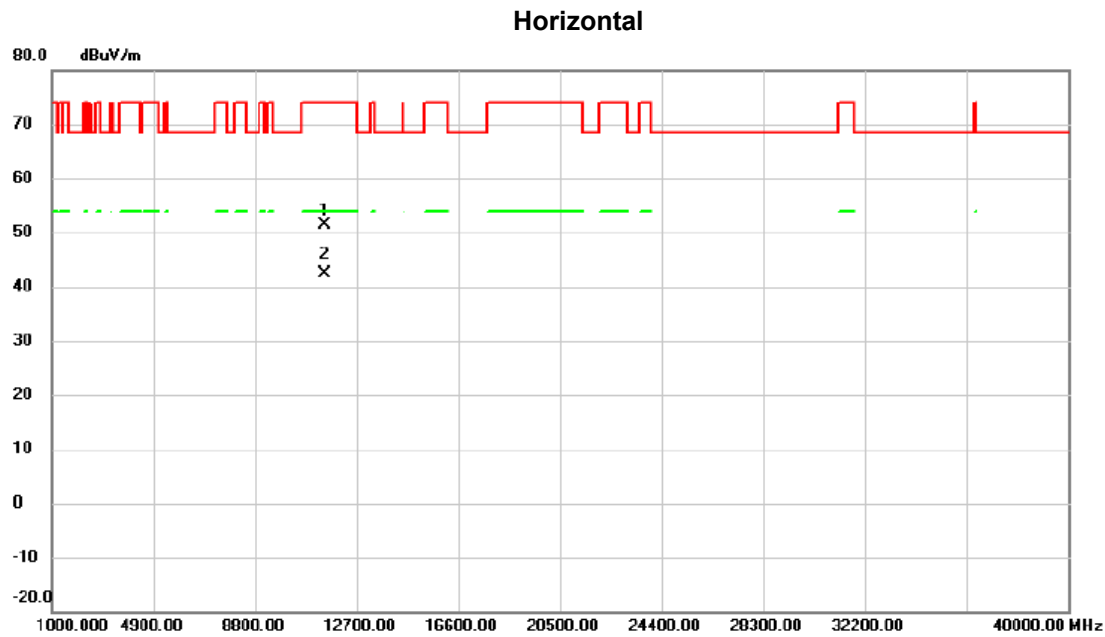


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5635.600	25.11	41.47	66.58	68.20	-1.62	peak	
2		5715.000	29.49	41.58	71.07	109.40	-38.33	peak	
3		5725.000	37.28	41.60	78.88	122.20	-43.32	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5745 MHz

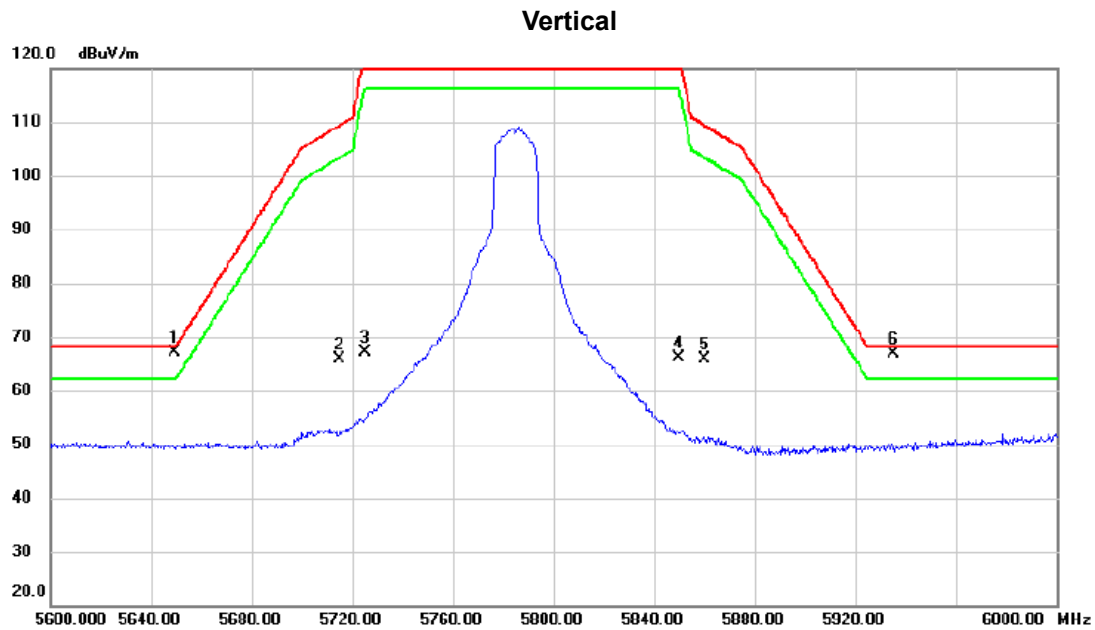


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11485.20	49.20	2.18	51.38	74.00	-22.62	peak	
2	*	11491.55	40.27	2.18	42.45	54.00	-11.55	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5785 MHz

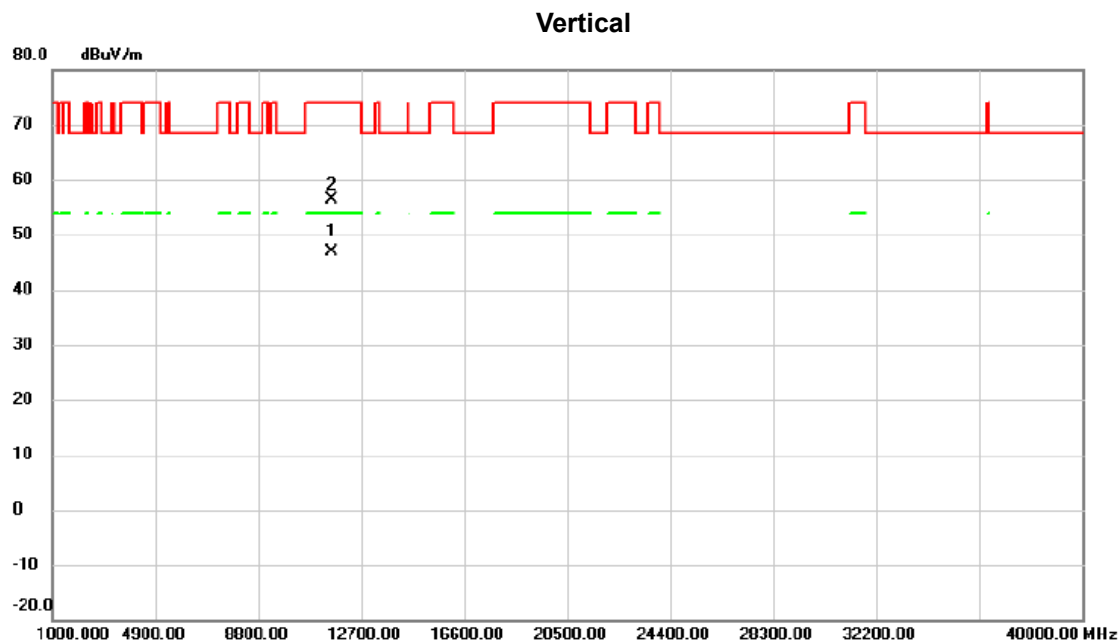


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5649.200	25.66	41.48	67.14	68.20	-1.06	peak	
2		5715.000	24.24	41.58	65.82	109.40	-43.58	peak	
3		5725.000	25.64	41.60	67.24	122.20	-54.96	peak	
4		5850.000	24.24	41.80	66.04	122.20	-56.16	peak	
5		5860.000	24.17	41.81	65.98	109.40	-43.42	peak	
6	!	5935.200	24.99	41.93	66.92	68.20	-1.28	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5785 MHz

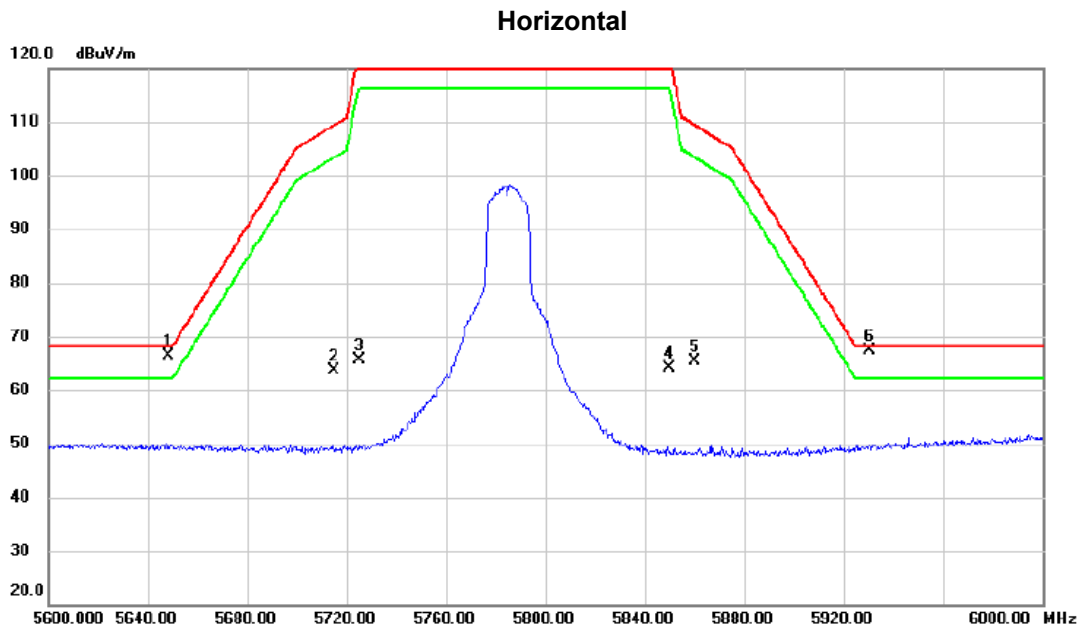


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11568.02	44.66	2.10	46.76	54.00	-7.24	AVG	
2		11568.17	54.39	2.10	56.49	74.00	-17.51	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5785 MHz

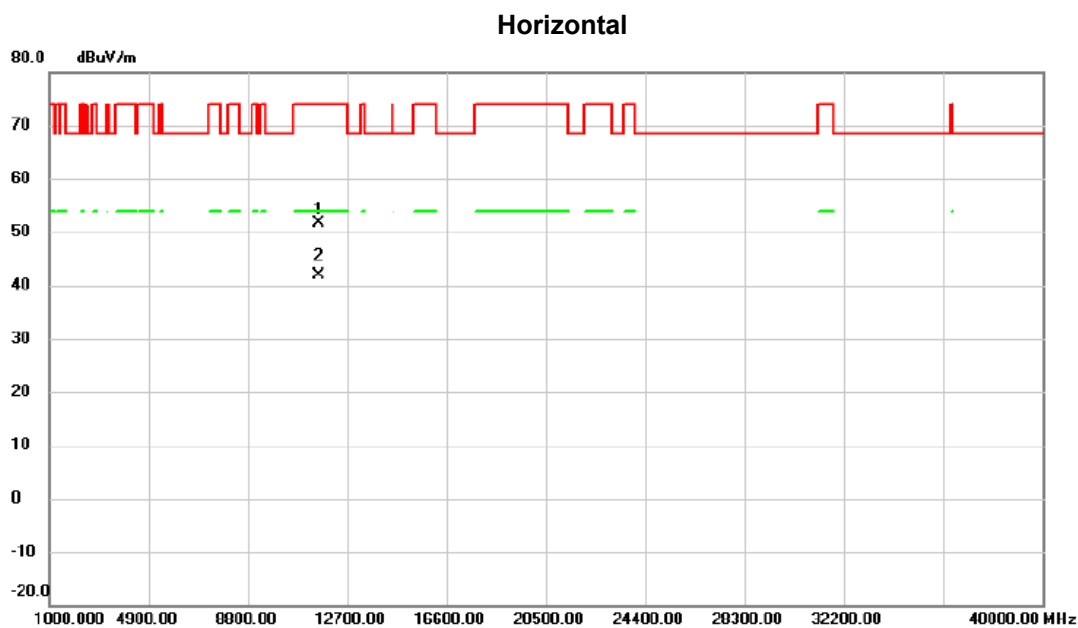


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	!	5648.000	25.02	41.48	66.50	68.20	-1.70	peak	
2		5715.000	22.01	41.58	63.59	109.40	-45.81	peak	
3		5725.000	24.12	41.60	65.72	122.20	-56.48	peak	
4		5850.000	22.25	41.80	64.05	122.20	-58.15	peak	
5		5860.000	23.48	41.81	65.29	109.40	-44.11	peak	
6	*	5930.400	25.34	41.93	67.27	68.20	-0.93	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5785 MHz

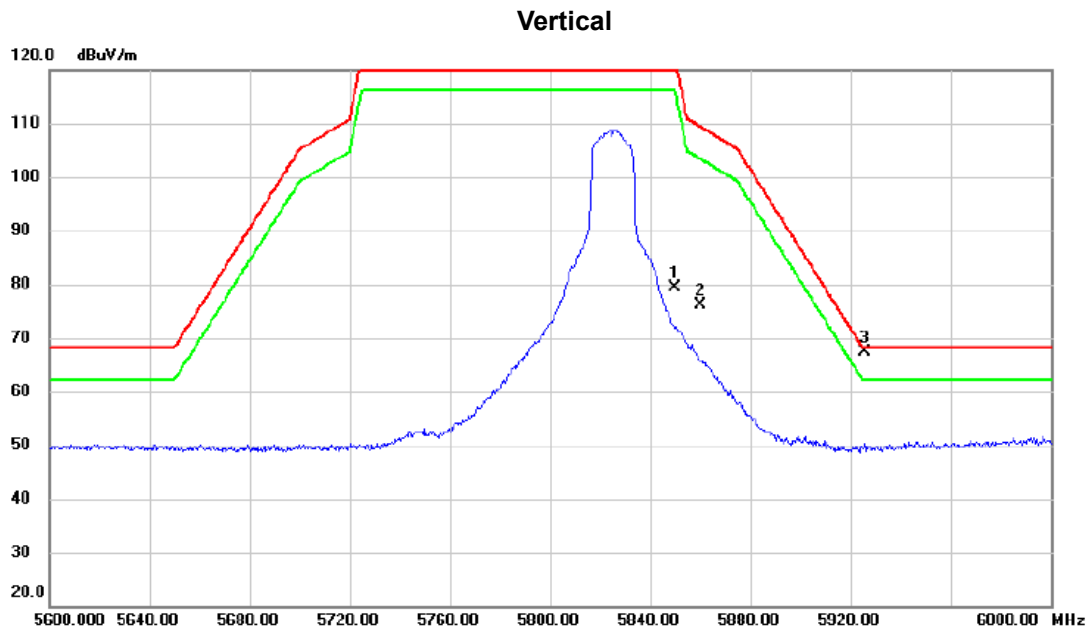


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11571.17	49.57	2.10	51.67	74.00	-22.33	peak	
2	*	11571.35	39.75	2.10	41.85	54.00	-12.15	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5825 MHz

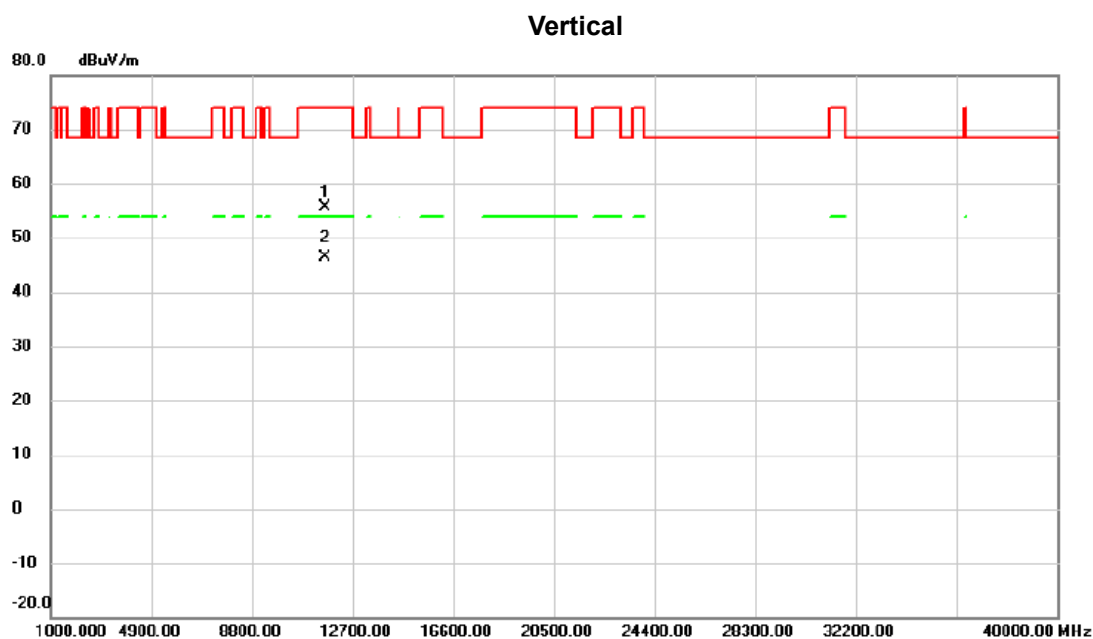


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5850.000	37.66	41.80	79.46	122.20	-42.74	peak	
2		5860.000	34.37	41.81	76.18	109.40	-33.22	peak	
3	*	5925.400	25.56	41.91	67.47	68.20	-0.73	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5825 MHz

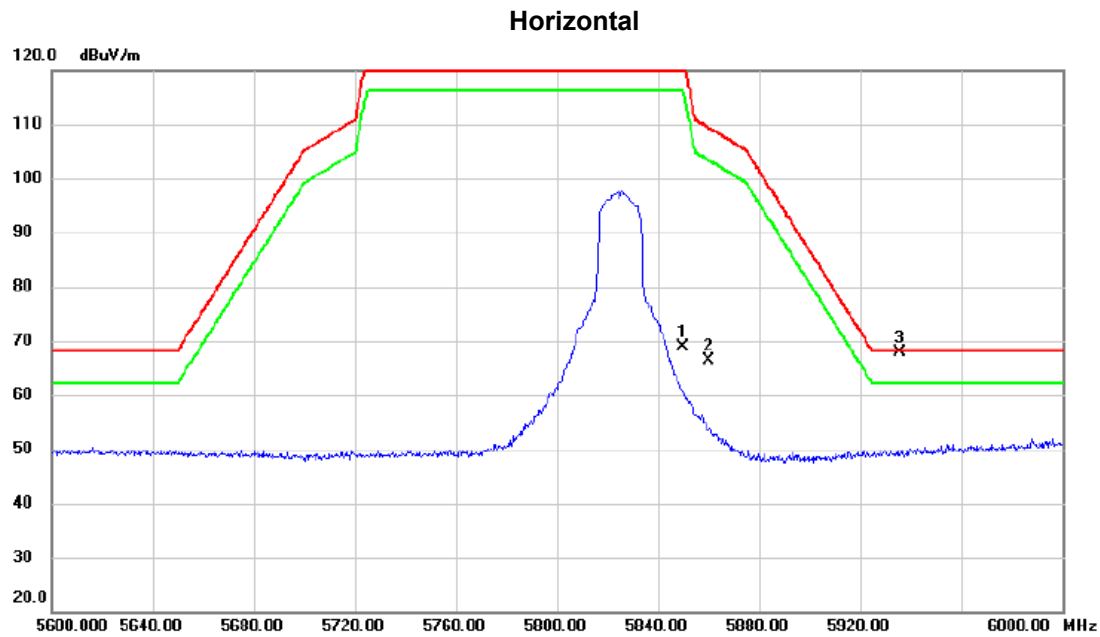


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11651.50	53.59	2.02	55.61	74.00	-18.39	peak	
2	*	11651.60	44.25	2.02	46.27	54.00	-7.73	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5825 MHz

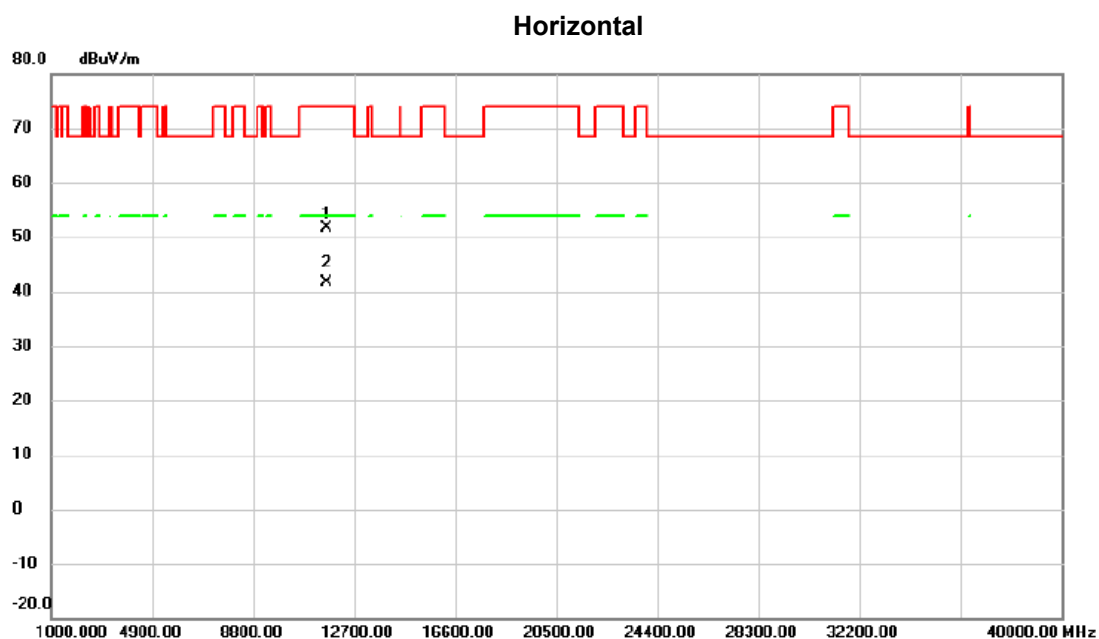


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5850.000	27.03	41.80	68.83	122.20	-53.37	peak	
2		5860.000	24.61	41.81	66.42	109.40	-42.98	peak	
3	*	5935.800	26.00	41.93	67.93	68.20	-0.27	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5825 MHz

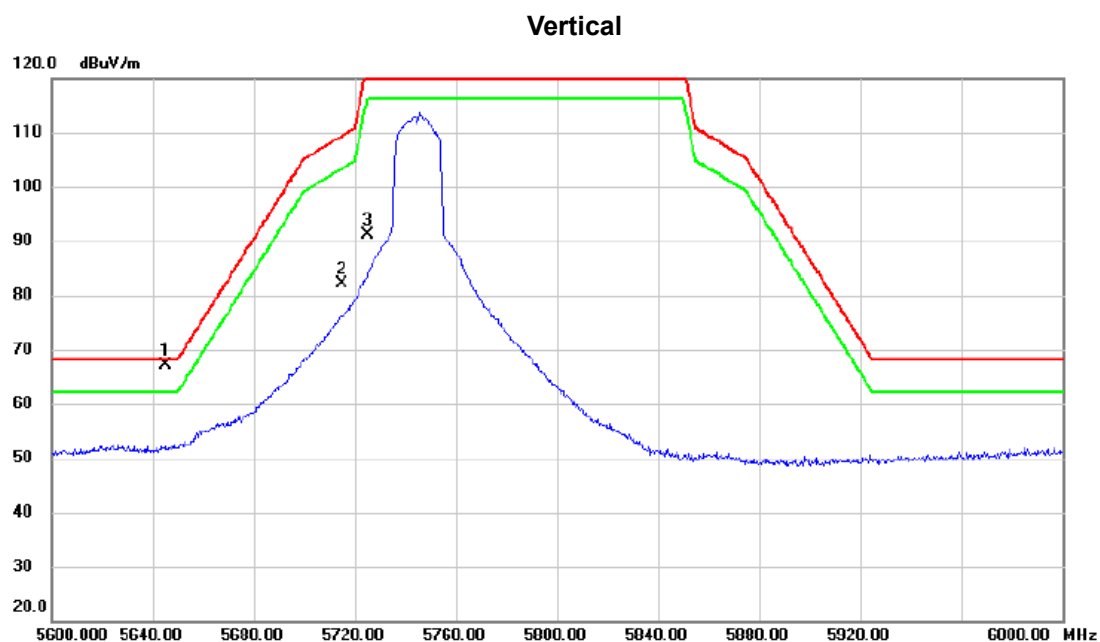


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11646.82	49.71	2.03	51.74	74.00	-22.26	peak	
2	*	11650.85	39.69	2.01	41.70	54.00	-12.30	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5745 MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5645.200	25.60	41.48	67.08	68.20	-1.12	peak	
2		5715.000	40.67	41.58	82.25	109.40	-27.15	peak	
3		5725.000	49.51	41.60	91.11	122.20	-31.09	peak	

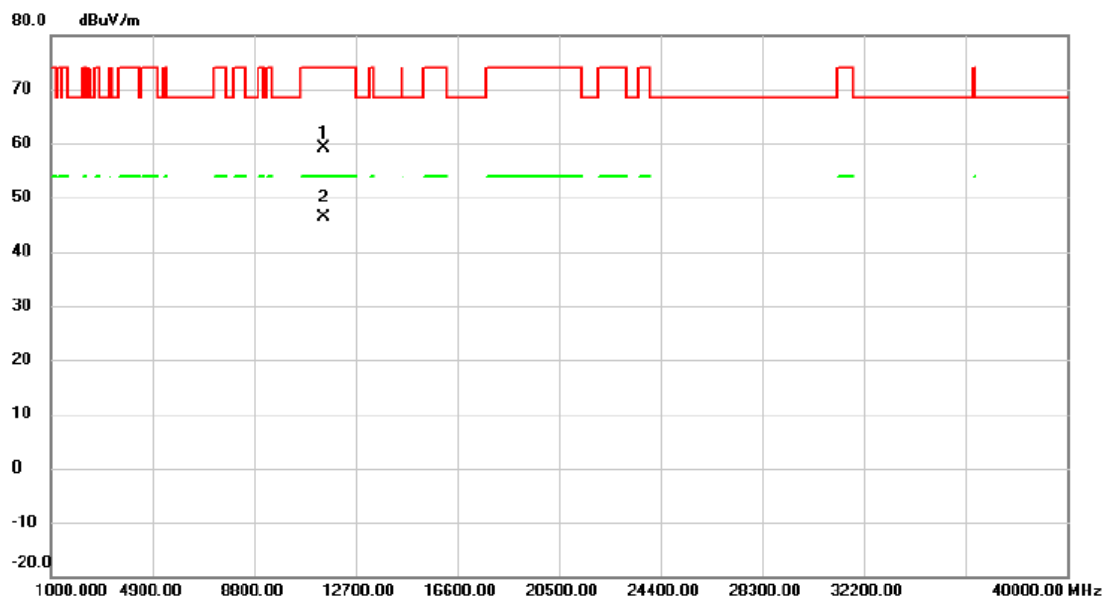
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5745 MHz

Vertical



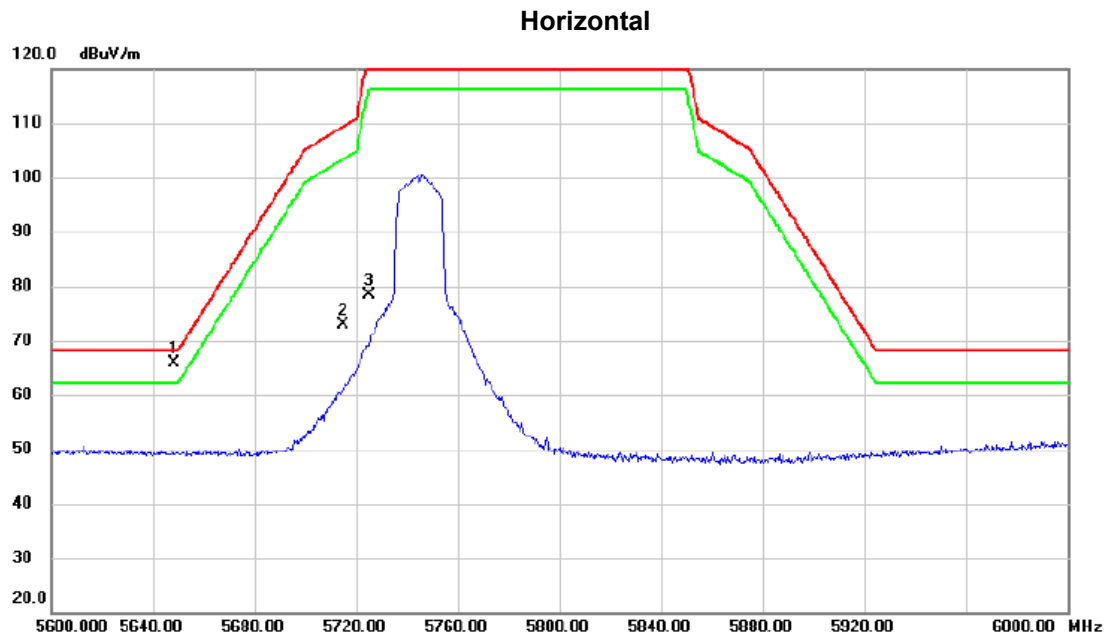
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11486.55	57.05	2.18	59.23	74.00	-14.77	peak	
2	*	11489.35	44.25	2.18	46.43	54.00	-7.57	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5745 MHz

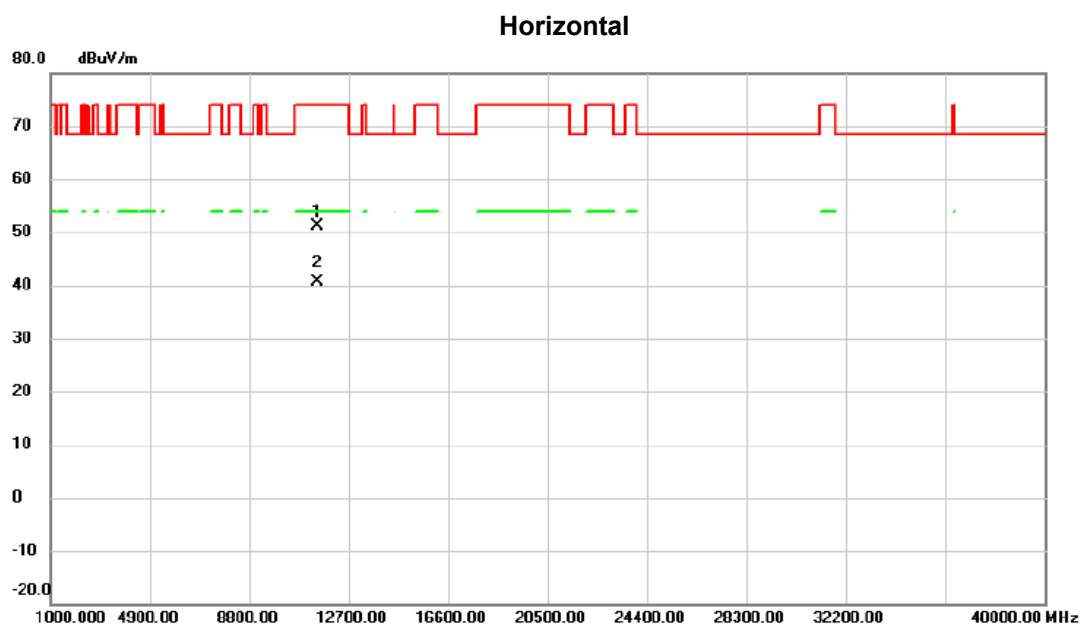


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5648.400	24.52	41.48	66.00	68.20	-2.20	peak	
2		5715.000	31.29	41.58	72.87	109.40	-36.53	peak	
3		5725.000	36.86	41.60	78.46	122.20	-43.74	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5745 MHz

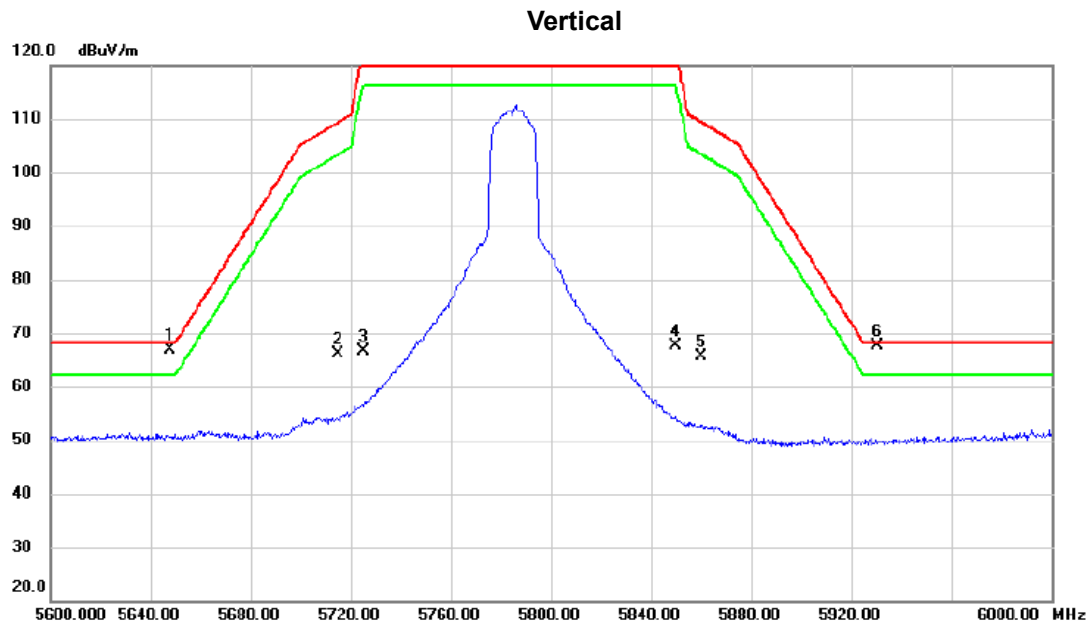


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11485.80	49.00	2.18	51.18	74.00	-22.82	peak	
2	*	11491.20	38.55	2.18	40.73	54.00	-13.27	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5785 MHz



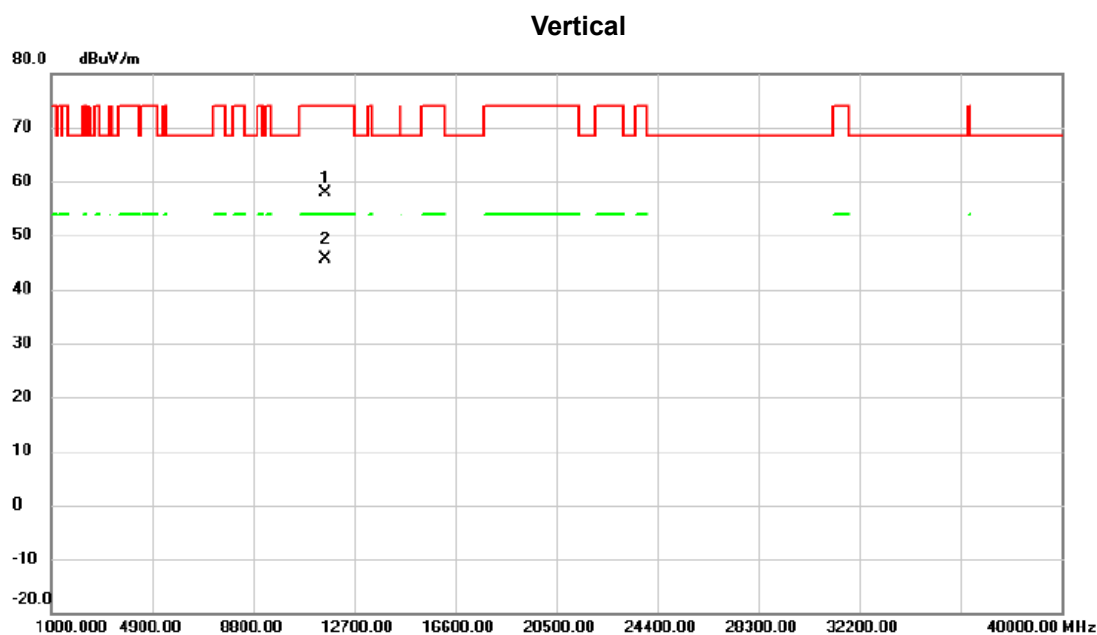
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	!	5647.800	25.49	41.48	66.97	68.20	-1.23	peak	
2		5715.000	24.61	41.58	66.19	109.40	-43.21	peak	
3		5725.000	25.05	41.60	66.65	122.20	-55.55	peak	
4		5850.000	25.90	41.80	67.70	122.20	-54.50	peak	
5		5860.000	23.85	41.81	65.66	109.40	-43.74	peak	
6	*	5930.200	25.77	41.92	67.69	68.20	-0.51	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5785 MHz



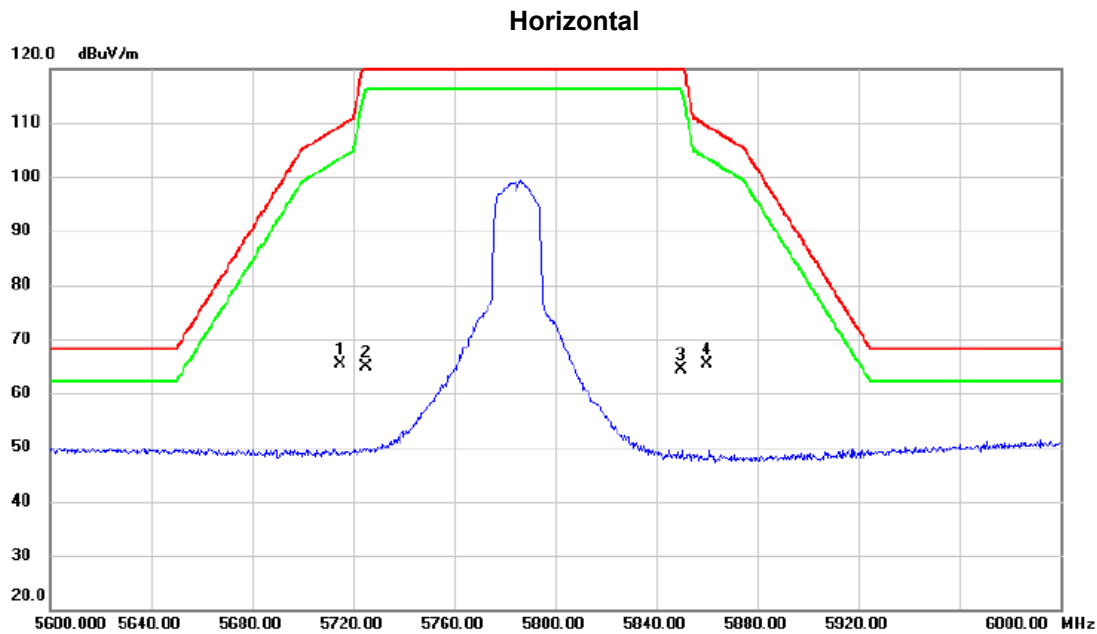
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11567.55	55.68	2.10	57.78	74.00	-16.22	peak	
2	*	11569.07	43.62	2.10	45.72	54.00	-8.28	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5785 MHz

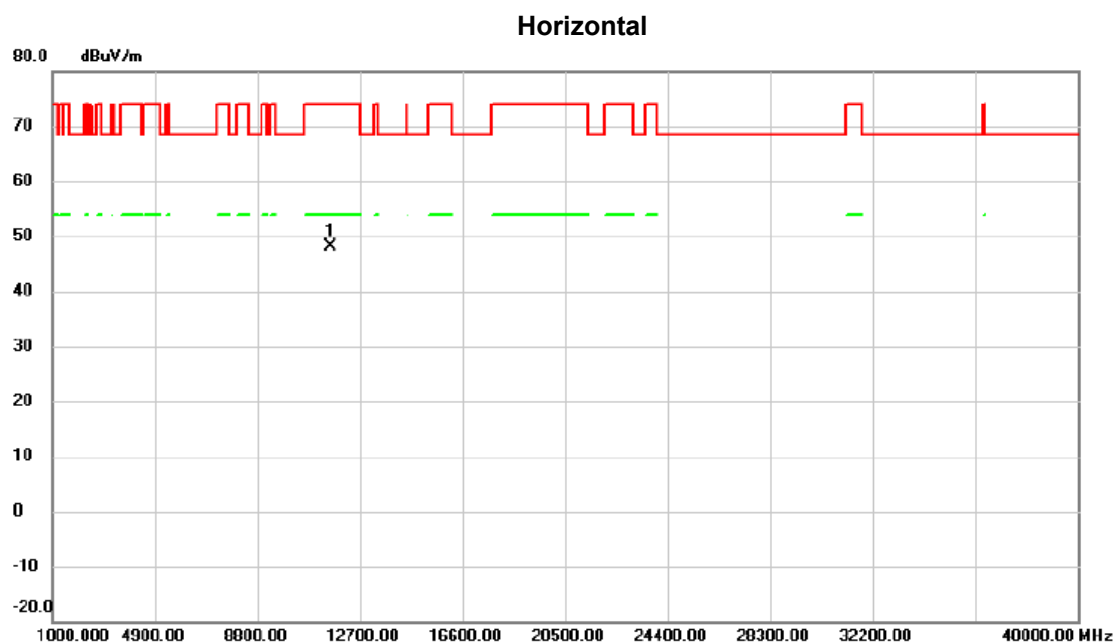


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5715.000	23.80	41.58	65.38	109.40	-44.02	peak	
2		5725.000	23.38	41.60	64.98	122.20	-57.22	peak	
3		5850.000	22.61	41.80	64.41	122.20	-57.79	peak	
4	*	5860.000	23.59	41.81	65.40	109.40	-44.00	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5785 MHz

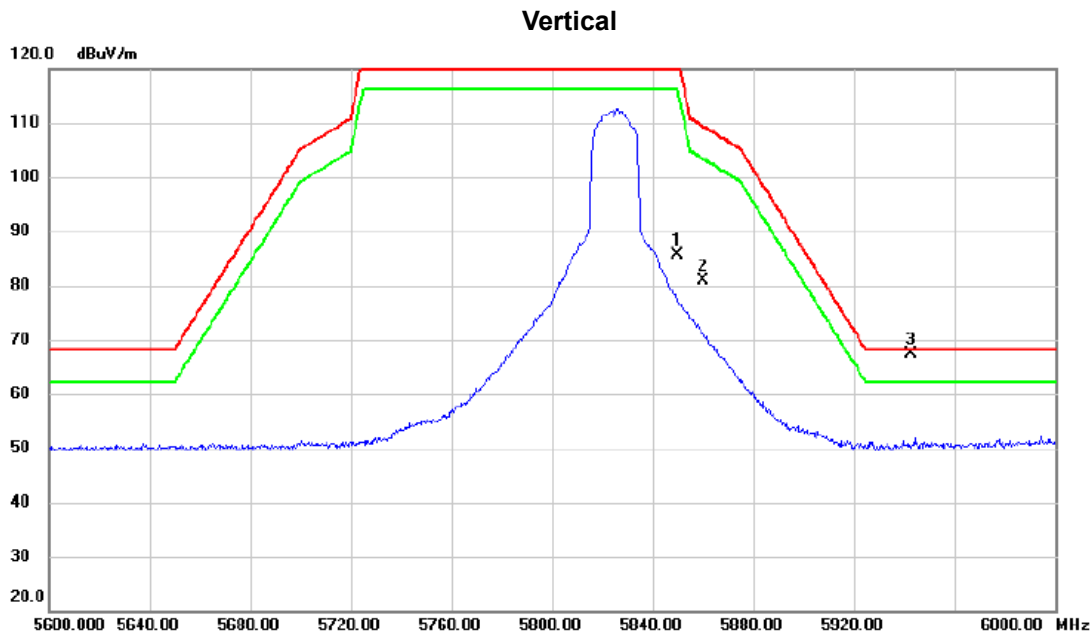


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11570.85	46.00	2.10	48.10	74.00	-25.90	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5825 MHz

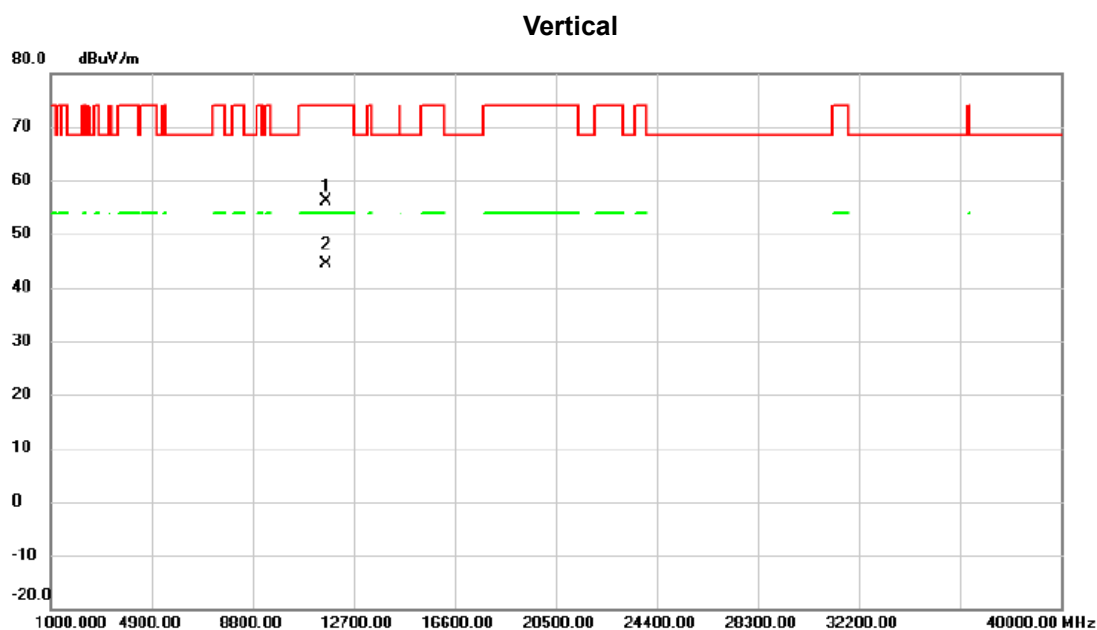


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5850.000	43.88	41.80	85.68	122.20	-36.52	peak	
2		5860.000	39.05	41.81	80.86	109.40	-28.54	peak	
3	*	5942.600	25.44	41.94	67.38	68.20	-0.82	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5825 MHz

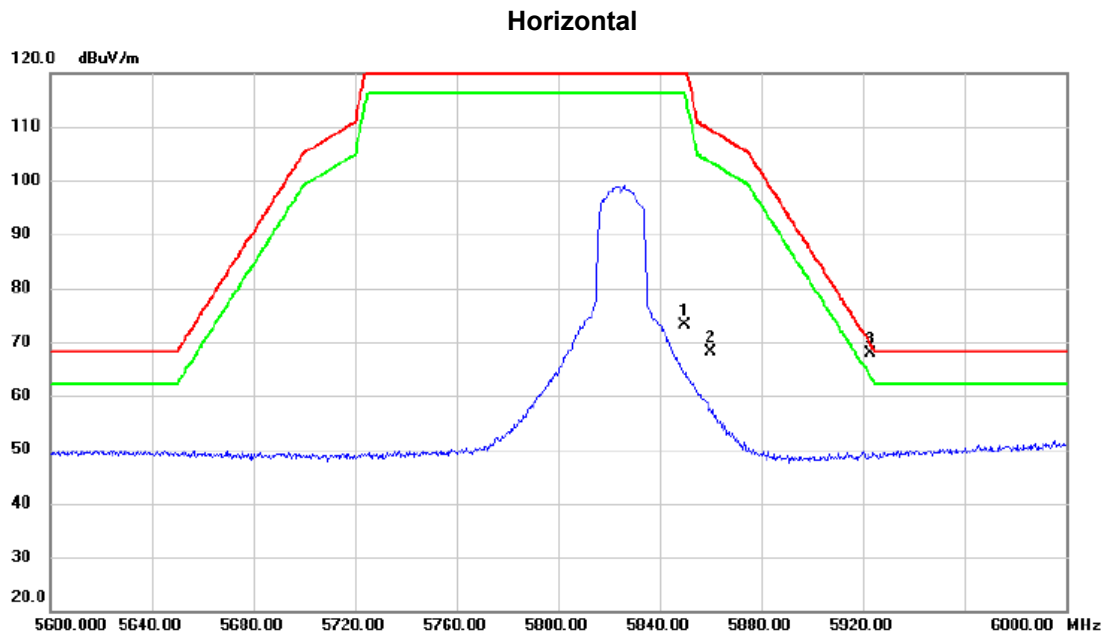


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11647.40	53.98	2.03	56.01	74.00	-17.99	peak	
2	*	11647.92	42.23	2.03	44.26	54.00	-9.74	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5825 MHz

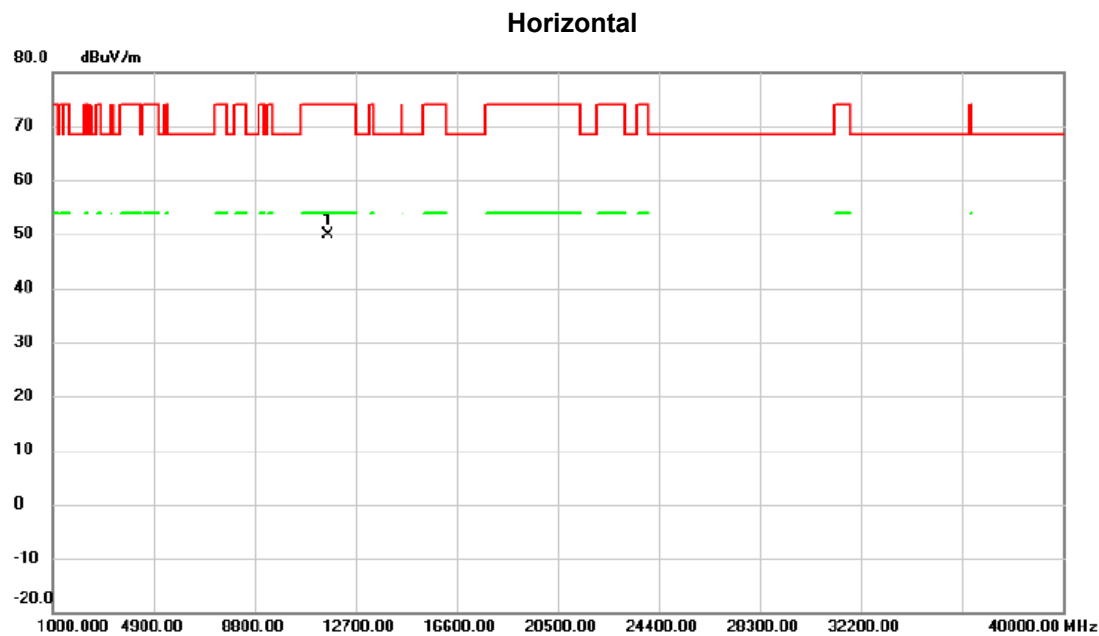


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5850.000	31.36	41.80	73.16	122.20	-49.04	peak	
2		5860.000	26.28	41.81	68.09	109.40	-41.31	peak	
3	*	5922.800	25.89	41.91	67.80	69.83	-2.03	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT20) Mode 5825 MHz

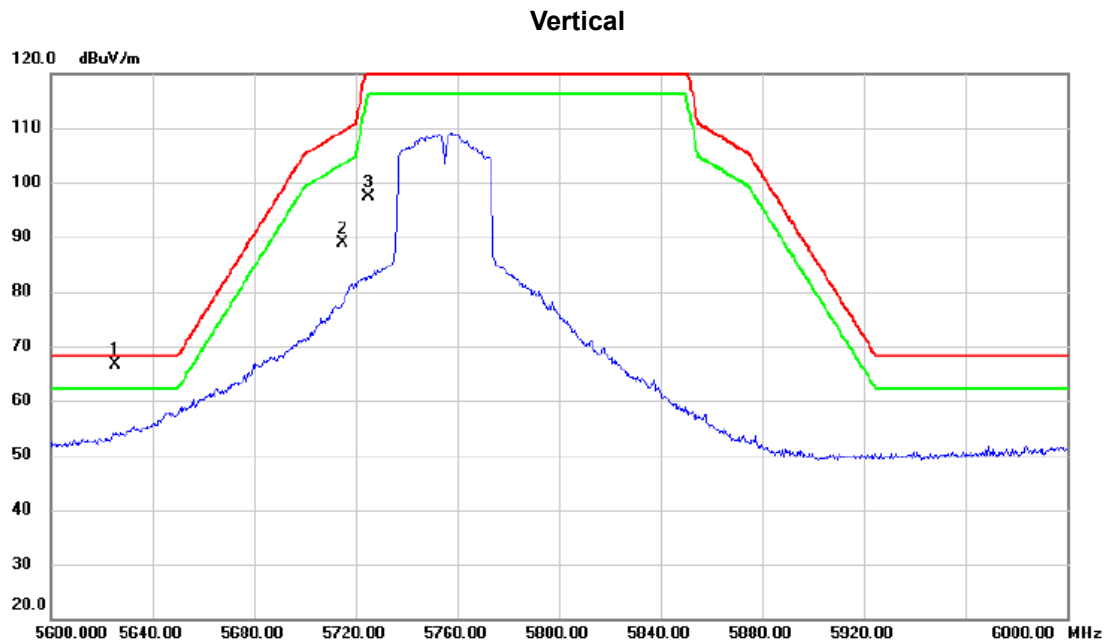


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11648.57	47.84	2.02	49.86	74.00	-24.14	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT40) Mode 5755 MHz

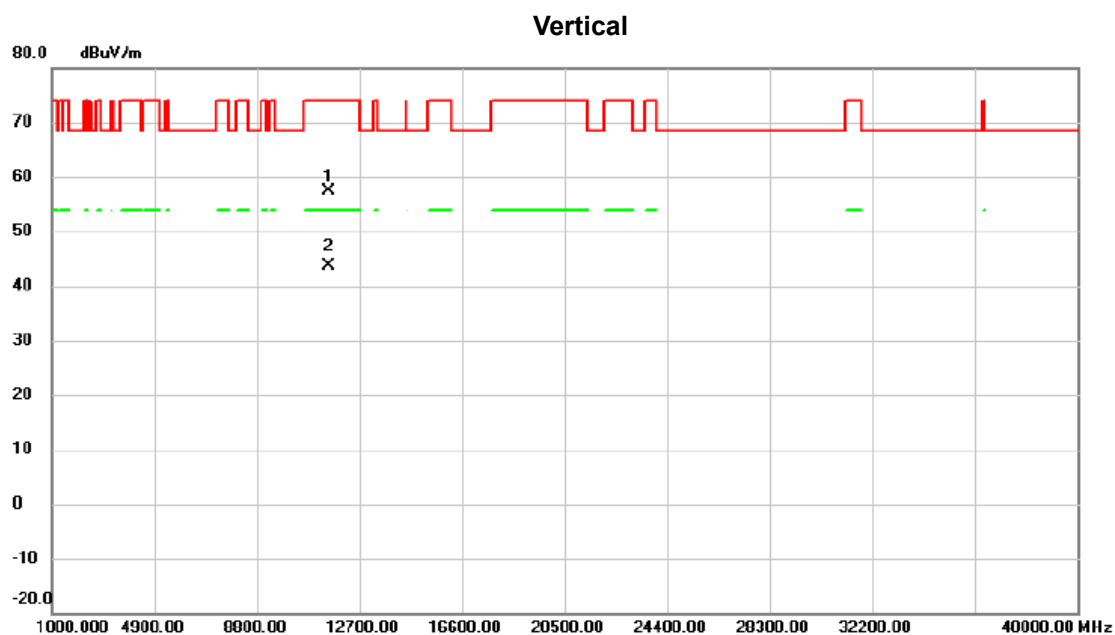


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5625.200	25.10	41.44	66.54	68.20	-1.66	peak	
2		5715.000	47.36	41.58	88.94	109.40	-20.46	peak	
3		5725.000	55.81	41.60	97.41	122.20	-24.79	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT40) Mode 5755 MHz

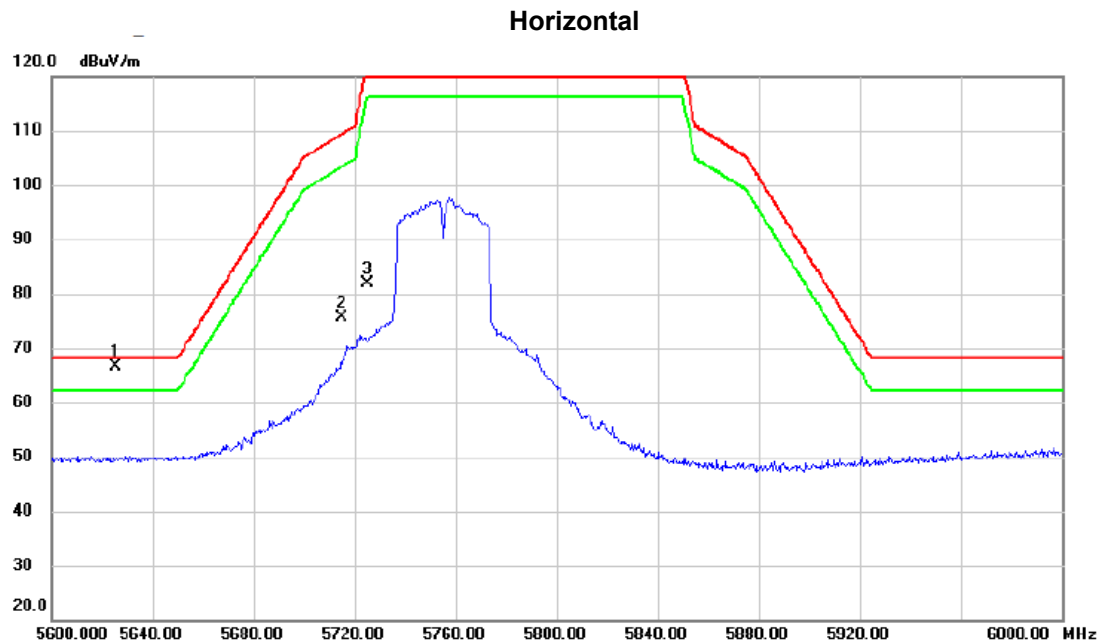


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11506.64	55.09	2.18	57.27	74.00	-16.73	peak	
2	*	11508.64	41.49	2.18	43.67	54.00	-10.33	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT40) Mode 5755 MHz

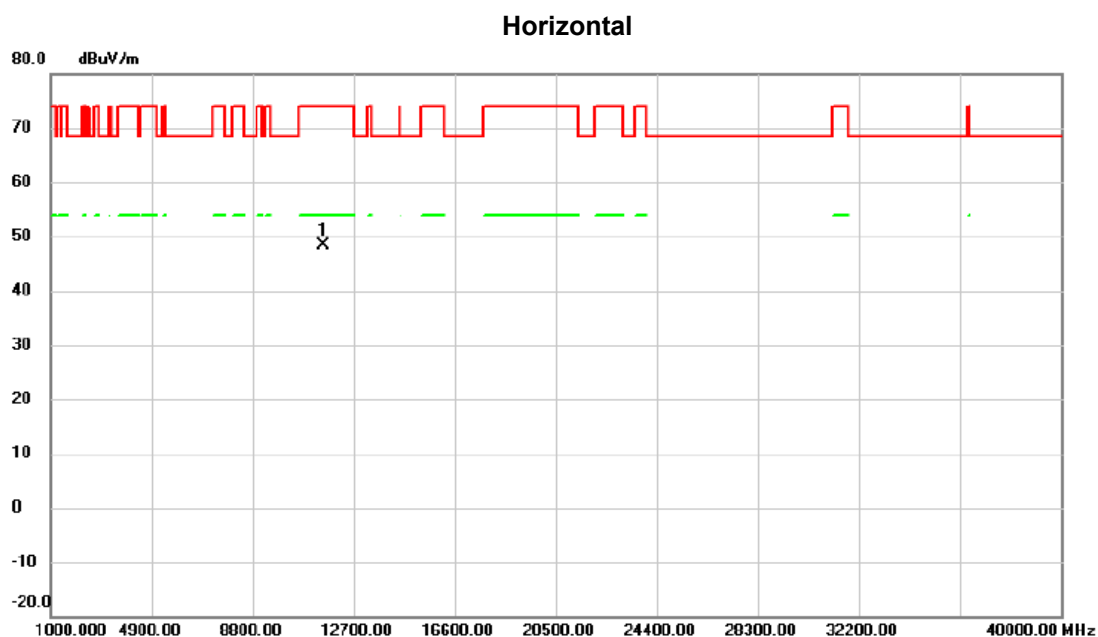


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5625.200	25.25	41.44	66.69	68.20	-1.51	peak	
2		5715.000	34.14	41.58	75.72	109.40	-33.68	peak	
3		5725.000	40.33	41.60	81.93	122.20	-40.27	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT40) Mode 5755 MHz

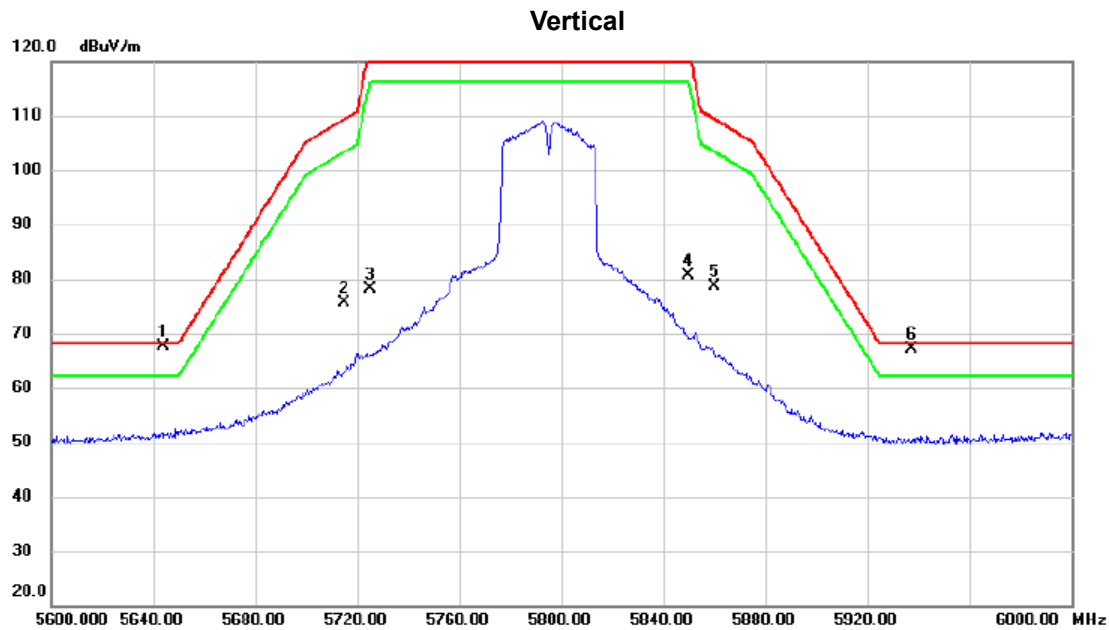


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11508.64	46.20	2.18	48.38	74.00	-25.62	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT40) Mode 5795 MHz



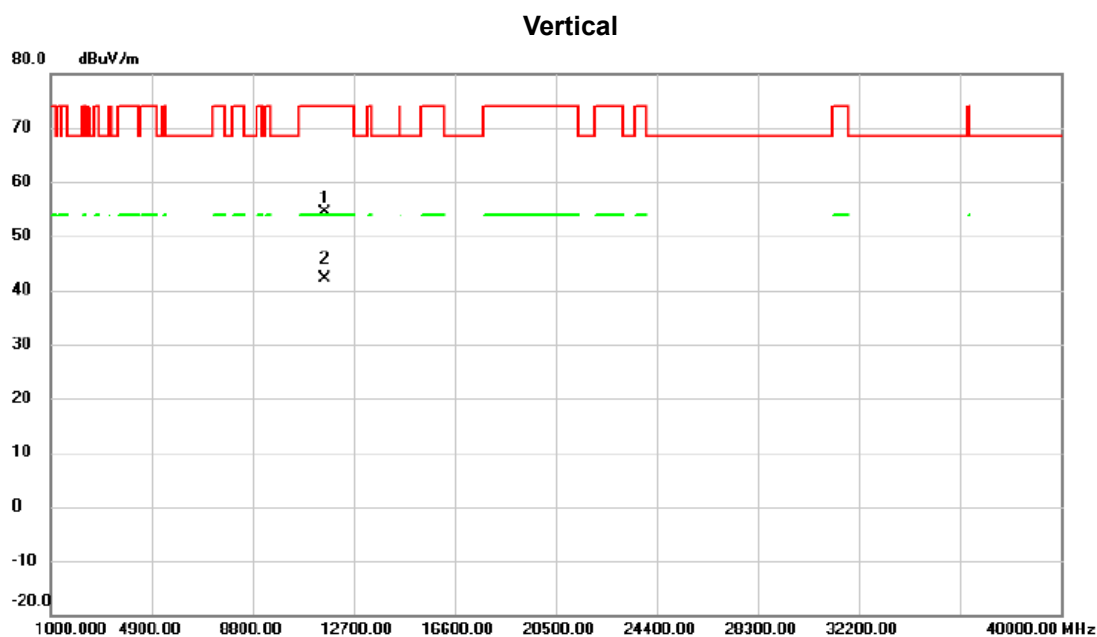
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5643.800	26.13	41.48	67.61	68.20	-0.59	peak	
2		5715.000	34.06	41.58	75.64	109.40	-33.76	peak	
3		5725.000	36.56	41.60	78.16	122.20	-44.04	peak	
4		5850.000	38.88	41.80	80.68	122.20	-41.52	peak	
5		5860.000	36.72	41.81	78.53	109.40	-30.87	peak	
6	!	5937.400	25.29	41.93	67.22	68.20	-0.98	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT40) Mode 5795 MHz



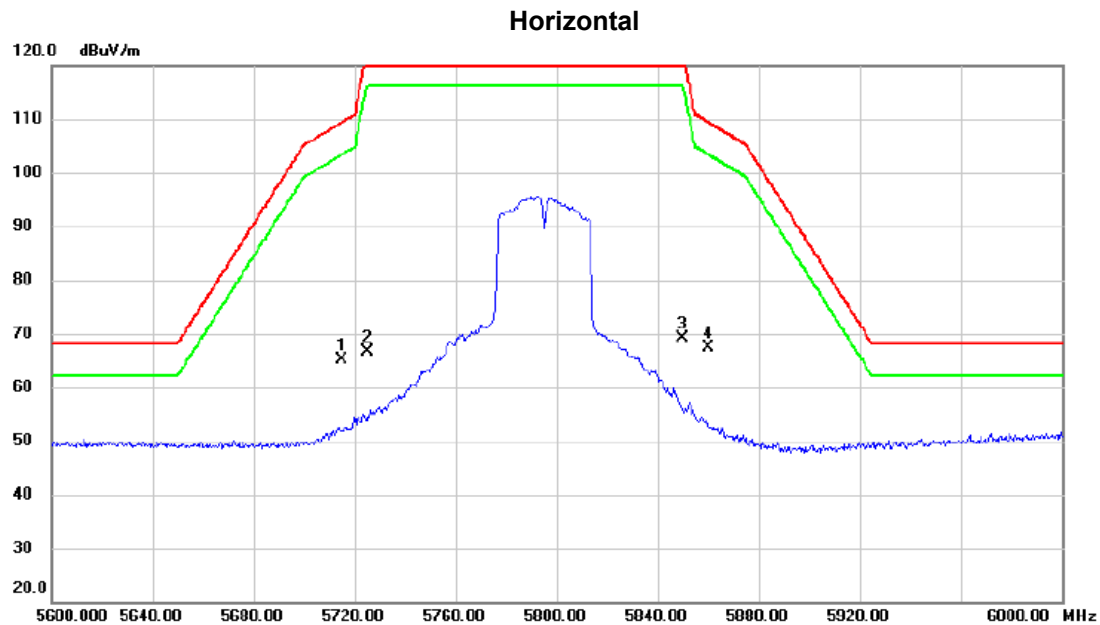
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11579.56	52.33	2.09	54.42	74.00	-19.58	peak	
2	*	11588.24	40.06	2.09	42.15	54.00	-11.85	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT40) Mode 5795 MHz

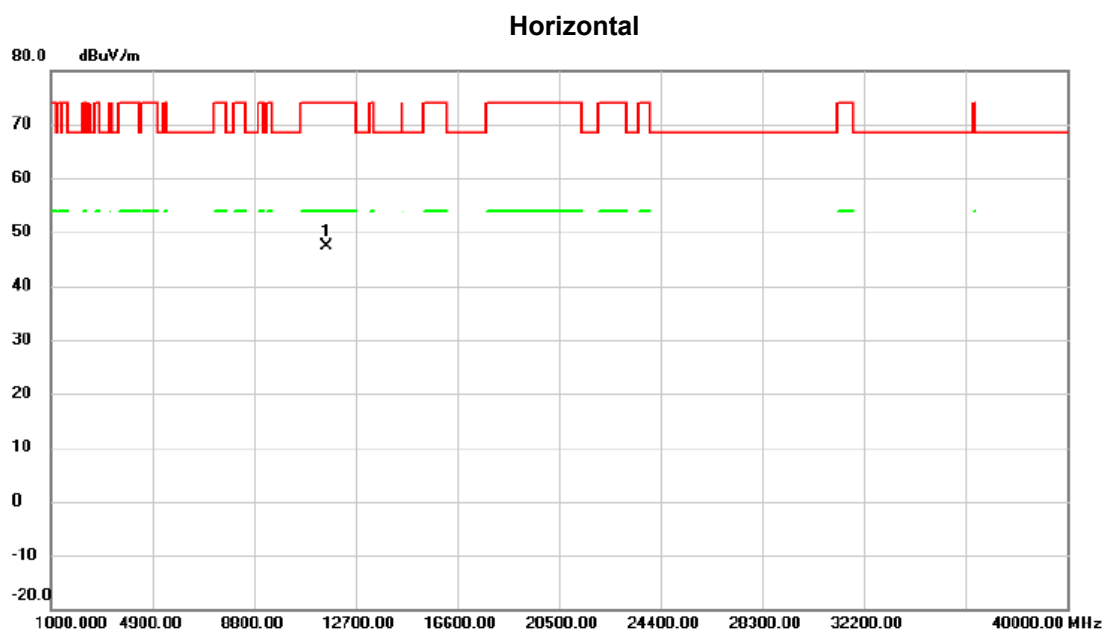


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5715.000	23.45	41.58	65.03	109.40	-44.37	peak	
2	5725.000	25.04	41.60	66.64	122.20	-55.56	peak	
3	5850.000	27.29	41.80	69.09	122.20	-53.11	peak	
4 *	5860.000	25.51	41.81	67.32	109.40	-42.08	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX N (HT40) Mode 5795 MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	11606.52	45.24	2.07	47.31	74.00	-26.69	peak	

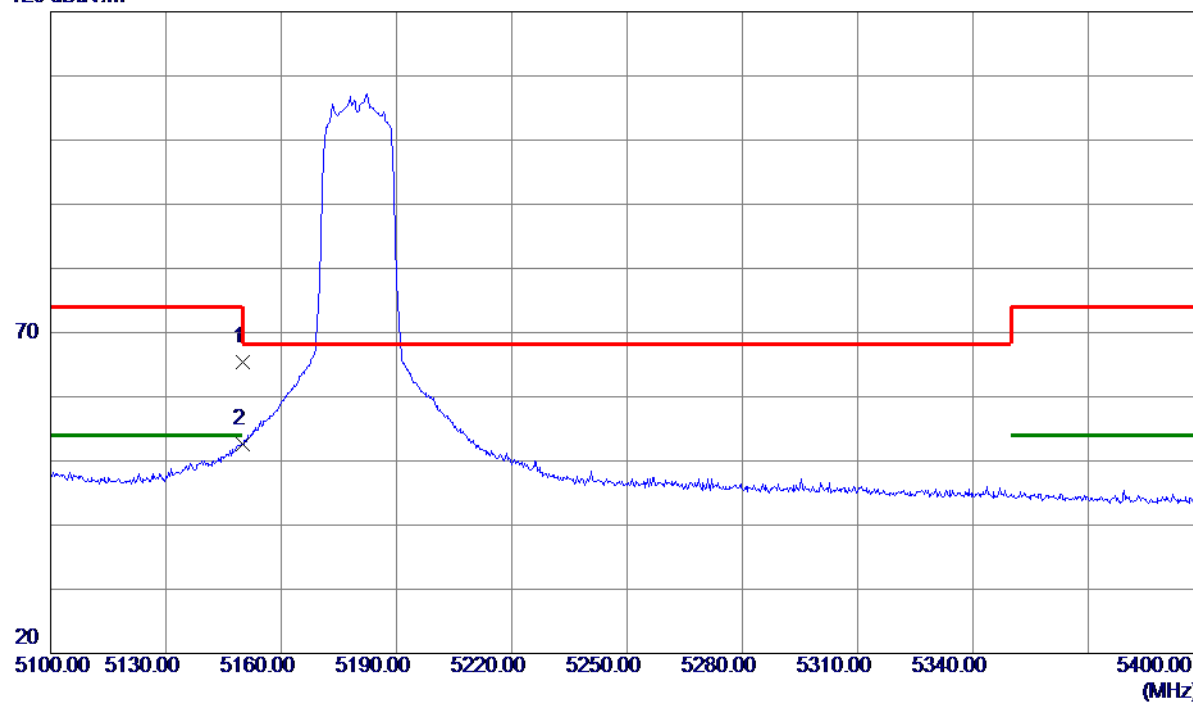
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT20) Mode 5180 MHz

Vertical

120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	26.27	39.07	65.34	74.00	-8.66	Peak	
2 *	5150.0000	13.55	39.07	52.62	54.00	-1.38	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.